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ILLINOIS TEACHER OF HOME ECONOMICS

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How Even feel

FACTS VERSUS FEELINGS IN FAMILY LIFE EDUCATION

Mary Elizabeth Moore, Flora High School
Letitia Walsh, University of Illinois

"Don't worry," a prominent politician, exposed as a willing participant in some government corruption, is reported to have said. "The public won't give it a thought!" In light of later events, he seems to have been a good prophet. Do Americans think? Can Americans think? Should Americans think?

According to the joke columns, "thinking" has a variety of interpretations. Says Junior: "Daddy, why do the ladies always bring their knitting when they come to the house?" Replies Daddy: "Oh, it gives them something to think about while they're talking."

Even literature of a higher order provides similar examples of the non-intellectual quality of thinking. "Logic! Good Gracious! What rubbish!" exclaimed E. M. Forster's Old Lady, "How can I tell what I think until I see what I say?"

A recent and true example appeared on the editorial page of a popular magazine during the furore over the possibility of a withholding tax on interest as well as on wages. Here is the letter received by one Senator from an adult constituent.

Dear Mr. Metcalf:

When I received my notice of savings and loan interest the other day, there was enclosed a request to write to my Senator in opposition to some bill. I can't find the slip and don't know what bill, but you probably know, and I want to tell you I am against it.

Thank you.

Depressing, isn't it? "Ah, but educated people think!" you may be saying. Do they? A University professor asked a class to define "psychoterminality." Two-thirds of the students obliged. Yet "psychoterminality" happens to be a made-up word which means exactly nothing! Two other professors changed the technique a bit. They asked a group of college students and a group of skilled and semi-skilled workers who had never gone beyond the eighth grade in formal education to do the following.

Define the words coined for the occasion

Designate the authors of unwritten books

Name the characters using some alleged quotations from Shakespeare

The average bluffing score for the workers was twenty-five per cent. The amount of bluffing by the students ranged up to 80 per cent. If "education has for its aim quite as much the defining of one's area of ignorance as the

extending of one's area of knowledge," these students offer little promise of becoming scholars of precision and excellence such as John Gardner declares our nation must educate if it is to survive.

Are you concerned? We are.

In fact, for months the authors of the various issues of 1962-63 have been studying the challenge thrown down by the Educational Policies Commission in 1961--"vocational subjects can engage the rational powers of students." Miss Edna Amidon, Director of the Home Economics Branch in the Office of Education, in a 1961 address before the Home Economics Section of the American Vocational Association, said, "Too often in the past we have left a subject before students actually understood the cause-and-effect relationships." Since perceiving relationships is the essence of reasoning, this becomes a serious indictment.

At the American Home Economics Association's Annual Meeting in June of this year, Dr. Ralph Tyler, Executive Director of the Center for Advanced Study in the Behavioral Sciences, Stanford, California, devoted almost half of his keynote address to stimulating ideas he had gained from visiting schools in the Soviet Union. He then set up the following large order as American education's challenge for the future.

"The kind of flexibility, adaptability and continued learning currently required demands not merely memorization of details but understanding of basic concepts which can be used in thinking about and dealing intelligently with phenomena, and understanding of the appropriate methods of studying problems in various fields. Since both problems and knowledge will be changing as the years pass, interest in attacking important problems and skills required to study and deal effectively with new problems are vital educational aims. Since values are so important in shaping action and directing thought and feeling, and since the development of one's values is also a lifelong task, we cannot ignore the responsibility of aiding the student in developing an adequate value system, particularly in helping him to find values in intellectual and aesthetic experiences, which we have found significant. The goal of continued sympathetic and objective inquiry combined with the habit of acting on the basis of intelligent study involves the development of relevant attitudes and practices. Otherwise, the student loses the sense of being an active and responsible person. These several kinds of objectives do not imply that the school or college will seek them in isolation. The effective integration of thought, feeling, and action will commonly be part of the educational purpose."

The underlining is ours but the thoughts are those of Dr. Tyler who has thus succinctly set up the goals authors of the 1962-63 Illinois Teacher of Home Economics formulated when they started to study, experiment, and write this year's issues. We can only hope to make a small contribution to the thinking of curriculum groups and, we are told by some, even that small contribution may be fraught with danger. Why? Because the research

on thinking with ideas and values is in such a pioneer and fluid state. So at the beginning of this series, let us warn you that thinking by each reader will be of the utmost importance. Change is so rapid, problems of education so complex, that by next year even we ourselves might and probably will have different ideas. If that were not true, we would be inadequate in the flexibility, adaptability and continued learning recommended by Dr. Tyler!

Contents of 1962-63 issues

To attempt to aid in meeting the over-all challenge proposed by Dr. Tyler, we are planning to publish eight issues concerned with developing thinking through our various areas of home economics subject matter. The remaining issue is designed to help our readers to collect and use the many new facilities which education and technology are creating to make such teaching possible.

This first issue seemed to need to "clear the decks" for thinking by pointing out some obstacles to clear thinking that emotions cause, particularly in the area of family relations. This choice was based upon the premise that, if students can be helped to understand their own and others' emotions, they can avoid many of the inherent pitfalls.

The second issue also carries a large burden of theory in order that our readers will have this as a substantial background of knowledge to which they can and should constantly refer when reading later issues. Because the area of child development is almost as emotionally weighted as the area of family relations, the challenge of developing effective thinking through child development problems has been courageously tackled by the authors. One of these is a Province Supervisor in Canada who has worked professionally with the Illinois author in Winnipeg. We would like our great number of Canadian readers to accept this as a friendly and grateful salute. They are accustomed to reading materials from the pen of Miss Helen Janzen who, until very recently, also served as the Editor of the Canadian Journal of Home Economics.

The third issue is devoted to "Teaching Money Management" as developed from the work of classroom teachers whom the two authors work with in their roles as Illinois State Supervisors. This issue is particularly planned to demonstrate the technique of logical outlining of subject matter articulated at the three educational levels. The fourth issue deals with "Experimentation in the Teaching of Foods" and illustrates the spirit of inquiry, the utilization of science principles, and other challenging aspects of today's education. The fifth issue suggests ways in which the development of thinking can be facilitated through a clothing textbook. The remaining issues on subject matter deal with teaching housing, nutrition, and consumer buying for the same purpose.

Creative writers cannot be expected to work within sharp restrictions. Consequently, each issue will be refreshingly different although based upon the same basic references. Don't feel worried if you find these differences occasionally confusing; that is almost inevitable in the fluid

state of terminology and other aspects of research today. Right there is where each reader's thinking has to take over! Welcome this opportunity to practice critical thinking as eagerly as you hope that your students will seize upon the opportunities you offer to them during this school year!

Our choices of basic references

On pages 430 and 431 in Volume V, No. 9, a list of selected references for reading on "thinking" was provided. All of these are stimulating and worthwhile and all have been used by authors as background material, in addition to a wealth of "fugitive materials" in the form of periodical references, mimeographed reports of related research, and interviews with researchers.

However, we feel we should acknowledge our very great debt to a few of these publications. To all of the authors, Education for Effective Thinking by W. H. Burton, R. B. Kimball and R. L. Wing has become the one invaluable resource. We wish every reader could have a copy and time for reflective thinking on all the wit and wisdom the volume holds.

In 1961 three outstanding leaders in home economics education published materials that, in our opinion, are very much in harmony with the Burton philosophy and techniques. Dr. Marjorie Brown's bulletin, Home (Learning) Experiences, is a highly creative effort to apply general educational principles to problems in Home Economics. Olive Hall and Beatrice Paolucci in their Teaching Home Economics, although written primarily as an undergraduate text for seniors in college, quote from Taxonomy of Educational Objectives: Cognitive Domain rather than from Education for Effective Thinking but are also in accord with the Burton book.

For interested new readers who do not have a copy of our original list, we are here providing data for your librarians in case you are moved to secure copies of these three publications. You may well find that Education for Effective Thinking is already available; many academic teachers have been urged by their leaders to study this. Note that verb "study." Scanning or even reading will not enlighten you. The book merits prolonged and responsive study by every teacher. It is a magnificent "How-To" book yet based upon the soundest of research.

Burton, W.H., Kimball, R. B. and Wing, R. L. Education for Effective Thinking. New York: Appleton-Century-Crofts, 1960. List price - \$6.00

Brown, Marjorie. Home (Learning) Experiences. St. Paul: University of Minnesota Campus Book Store, 1961. 60 cents

Hall, Olive and Paolucci, Beatrice. Teaching Home Economics. New York: John Wiley & Sons, Inc., 1961. List price - \$6.95

What Research Tells the Teacher

As time is counted, research on thinking is a very recent development. With the extreme complexity of the topic that is only now coming to be appreciated, research in this area is pretty sure to continue into the foreseeable future.

For example, teaching for thorough acquisition of facts, rules, principles and generalizations is acknowledged to be a highly time-consuming task, forcing teachers to omit portions of knowledge formerly taught. Dr. B. O. Smith, who designs and directs research on thinking at the University of Illinois, has recently received from the Office of Education a grant of \$121,849. With this he proposes to make 185 transcriptions of classroom discussion in grades nine through twelve. The major objective of analysis of these transcriptions is to determine the kinds of strategies used by teachers in teaching rules in English, social studies, science and mathematics. From the results, it is expected, a superior strategy may be developed.

We dare not wait upon definative research

"Now that research grants are increasingly available," a teacher is inclined to say comfortably, "surely it will be better for me to continue teaching as I do until all the evidence is available and clear-cut mandates are established on developing the ability to think." There are at least two errors in such thinking. One is the mistaken notion that these teachers will be around when "all the evidence" is in! Actually, it will never be in because of the continuous changes in home economics subject matter and in educational theory. Moreover, persons qualified and willing to do research in our field are in such short supply that the AVA Research Committee is proposing that something like forty-five million dollars be granted by Congress not only to do research but to provide training for potential researchers in the various fields of vocational education.

The other error lies in the assumption that, once scientific inquiry has established such "strategies" as Dr. B. O. Smith is trying to discover, all instructors can and will alter their habits of teaching forthwith. Nothing could be farther from the truth! Years of experience have shown that about an average of fifty years is necessary to get a research recommendation actually into use in schoolrooms. Human beings simply can't change over-night! So we might as well keep ourselves limber through trying out the new findings as they emerge. Flexibility, adaptability, and continued learning are the necessary characteristics of instructors who expect to stay in the teaching game long, Dr. Tyler warns.

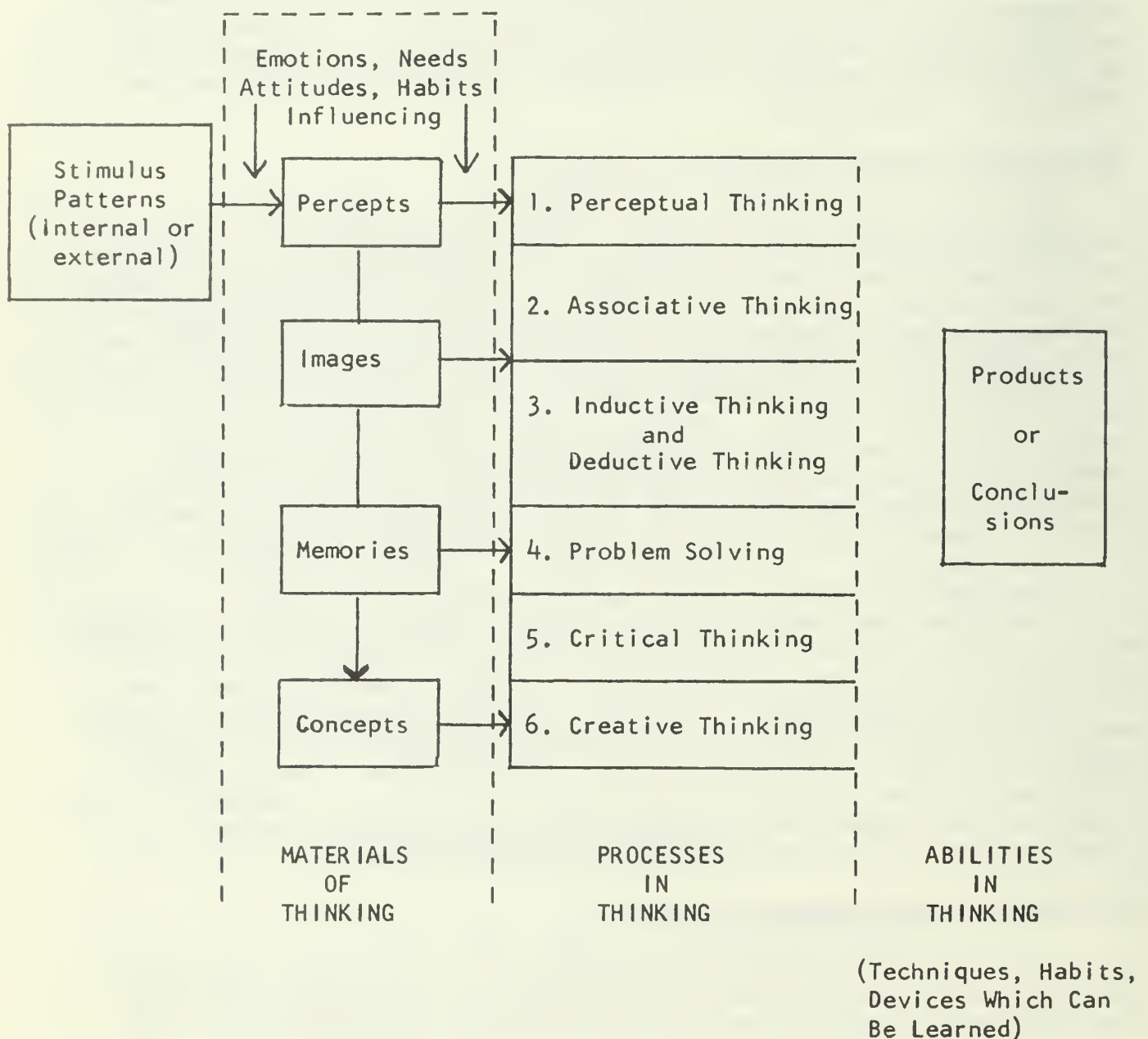
Some ideas on what happens in thinking

In 1956 David H. Russell of the University of California published a monumental collection of then available research on Children's Thinking, including many investigations done in other countries than our own. This was eagerly seized upon by college teachers but, like most collections of

research reports, proved to be difficult to apply. Dr. Russell made some attempts to apply findings to the teaching of young children, the level where most of the studies were carried on. But applying these to older students could be done in only the most general way.

However, Russell did provide a diagram that proved illuminating to home economists who were trying to study the problem of thinking. This same diagram is reproduced in the Burton volume on page 22.

Schema for thinking diagram (Adapted from Russell)



For the first time, after studying this diagram, many home economists felt that they understood the role of emotions in influencing percepts and interpretations of images, memories, and concepts as practically inevitable materials of thinking. Our struggle to incorporate values into home economics teaching became a little less vague and idealistic. More than twenty-five years ago, Dr. Ivol Spafford proposed that one goal of home economics teaching should be the attainment by every student of a personal philosophy of life. Dr. Tyler now has to call for us to aid our students in developing adequate value-systems. Such is the rate of adoptions of innovations by even the best of teachers in all areas of subject matter!

Another major contribution of Dr. Russell's diagram lay in his clear-cut organization of different types of thinking, based at least in part upon Burt's hierarchial scheme of mental levels--from sensation at the lowest level, through perception, association, relation and ultimately an intelligent outcome. In any situation sensory and associative thinking are readily recognized. But at the higher levels suggested by Russell,--inductive thinking and deductive thinking, problem solving, critical thinking, and creative thinking--distinctions become blurred. Sometimes a single lesson in home economics will utilize two or more of these types, and not necessarily in the suggested order nor done by all students.

Definitions of some terms used

Although many research projects have been classified as in the areas of "Semantics" and "Communication," communication difficulties are common to virtually every segment of society. Despite all the professional literature on communicating, the problem continues to rear its ugly head. Like the Hydra, alleviate one misunderstanding and two more appear out of obscurity.

Home economists have been accused of being especially impervious to the need for precise communication because of their faith in the presence of real things in their classrooms. For example, perhaps some student fails to understand a direction of the teacher. She can watch a student's behavior who was able to get meaning from the direction, delay her own procedures until the teacher is forced to provide an individual demonstration, or decide to just skip the whole thing! One teacher found a student digging, in a desultory fashion, into stalks of fresh celery for the "celery seed" listed as an ingredient for the pickled beets she was preparing!

So let's look at some definitions of terms used in discussions about thinking. These definitions have been gathered from many authorities, no two of whom are in complete agreement. Moreover, in an effort to give meaning to our readers, they may have been oversimplified according to researchers' standards. However, since the researchers failed to agree, we have at times used our womanly intuition in phrasing what, in our opinion, forms the present "core" of agreement.

Education: A process or an activity which is directed at producing desirable changes in the behavior of human beings

- Thinking: "Thinking results when there is persistent effort to examine the evidence which supports any belief, solution, or conclusion which is suggested for acceptance, together with the implications and further conclusions of the evidence" - Burton
- Stimulus: Something that stirs to action or effort; may come from outside of or within the person
- Percept: What is known of an object, a quality, or a situation as a result of a sensory experience; actually, even sensory perception is a very complex process
- Image: A picture in the mind; derived from memory and/or imagination; may be true or untrue
- Memory: What is retained, recalled, and relived from past experiences and learnings
- Perceptual thinking: That type of thinking least directed toward a definite conclusion, most affected by environmental conditions, and arising as a response to stimuli in the organism itself or in the immediate environment
- Associative thinking: That type of thinking that is relatively undirected toward a goal but exhibits some direction or linkage in somewhat simple situations
- Inductive thinking: That type of thinking that reasons from the particular to the general and is more directed in character since it seeks a conclusion that may be a cause, a prediction, or a description
- Deductive thinking: That type of thinking that reasons from the general to the particular by arriving at propositions which follow necessarily from prior general and particular propositions called premises; the application of ideas already established to new situations
- Problem solving: That type of thinking which is most clearly directed because a problem, demanding a goal and analysis of the situation, is recognized and worked through to a solution
- Critical thinking: That type of thinking which involves critical appraisal of solutions such as the process of examining both concrete and verbal materials in the light of related, objective evidence, comparing the object or statement with some norm or standard, and concluding or acting upon the judgment then made
- Creative thinking: That type of thinking that is associated with the occurrence of new relationships discovered by an individual; new hunches or insights into the inner relations or arrangements of a problem situation

Products or conclusions: Outgrowths from appropriately selected processes of thinking in terms of goal sought and nature of the situation

Hierarchy: Organization of persons or things that has higher and lower ranks; in this issue a hierarchy of values based on levels of importance and worth, and a hierarchy of ideas based on levels of abstraction

Values: Rather permanently habitual, attitudinal patterns acquired through experience, learned as ways of need-satisfaction, and based upon a conception of what is good or desirable

Ideas or concepts: Range from a sensory observation of something very simple to high level abstractions on complex topics; they have a defined meaning fixed by, and as extensive as, the words used to describe them

Meaning: "The total significance for any thing, person, process, or situation built up by an individual as he has experience with it; meaning is the grouping of ideas, knowledges, beliefs, feelings, and impressions of any and all kinds attached to the item"--Burton

The learner is one person

As the authors of Taxonomy of Educational Objectives, New York: Longmans, Green, 1956, \$1.75, have pointed out, the goals of a school may be arbitrarily divided, for purposes of study, into three parts, Here are descriptions of these "domains."

The cognitive domain includes those objectives which deal with the recall or recognition of knowledge and the development of intellectual abilities and skills

The affective domain includes objectives which describe changes in interests and values, and the development of appreciations and adequate adjustment--primarily related to feelings, their understanding and control

The motor-skill domain includes objectives which deal with manipulative abilities and skills

We have chosen this one related set of descriptions to illustrate how the total character of a student's learning fails to become evident in isolated definitions such as those given previously. For example, every home economics teacher knows that a skill performance such as fitting a garment, demands a complex set of "responses." Some of these responses are manipulative, dependent upon motor control. But far more of them are intellectual and some are in the affective domain. "To handle fabric deftly without stretching or pulling off grain while fitting" is involved in such a skill performance and does require practiced motor control. "To recognize the grain of material and identify adjustments necessary to insure the correct relationships between this and the curves of the human

figure" is an intellectual problem of real challenge if, of course, the teacher has the patience and wisdom to let the student and her fitting partner work out the solution. Then there are those critical issues connected with such questions as "How short can my dress be?", "How tight is too tight?" Adult and adolescent values frequently clash in such decisions. The objective, "To confer and develop an acceptable compromise in choices involved in fitting a garment" in real life, at least, certainly falls in the domain of feelings.

So, in trying to understand the materials, motives, processes, and abilities involved in thinking, as they are more or less ineptly defined here and as later issues describe their use in classrooms, let's be sure that we see the situation whole. Each student is one creature of intellect and of feelings with a need for at least a few motor skills to make her way in the world. We cannot and must not seek to compartmentalize her growth and development in actual practice.

Dr. Russell's chart on thinking serves to clarify--and we are grateful. The efforts of other leaders to further clarify through definitions serve to give meaning to the words--and we shall use these as well as we can. But let's be careful to avoid the misconception some of our students tend to make. This is the assumption that, when we know the words, of course we can "carry the tune." Developing meanings of each term for ourselves and implementing them in satisfying action is going to be difficult! But, also, we can "stand tall" when we know that we are contributing to the central purpose of today's education!

Can Thinking Be Taught?

In his Preface to Education for Effective Thinking, Dr. Burton declares this is a tricky question. He continues:

"No one can teach anyone "how to think." We can, however, aid individuals to improve the natural abilities they possess and the natural processes which they use. We can aid individuals to recognize and be sensitive to certain conventions and processes of valid thought, to certain pitfalls and sources of errors."

In a period when we know that what we teach may be rendered obsolete or useless even before our students establish homes of their own, such aid becomes of paramount importance in each girl's education.

Dr. Burton's co-authors made exhaustive studies of the pertinent research on the success of instruction designed to teach students to think more effectively, and report in chapters twelve and fourteen that we can so teach. In chapter twenty-one, "Evaluating Critical-Thinking Skills," not only analyses of available tests but encouragement that evidence of successful teaching can be secured are offered.

Learn by doing

In this same Preface Dr. Burton inserts a note to teachers trying to use his book as a text. Kindly but firmly he warns: "An intellectual sin of the greatest magnitude would be to teach this book (or any treatment of thinking) as if it were subject-matter-to-be-mastered. An instructor guilty of lecturing this material should be strongly urged to seek a position in occupations making far simpler demands on the intellect than does teaching. Knowing about thinking is one thing, being able to think is quite another. Knowledge is necessary as in any human activity, but doing the thing is the essential."

We are in complete agreement with Dr. Burton as to where the emphasis should be placed. But we can provide only the "knowledge" as well as we can. You, our readers, will have to carry responsibility for the "doing" as well as you can. To say that such "doing" will become an exciting adventure is not a mere affirmation of faith; we have a few years of satisfying experience as evidence! Indeed, an awareness of "thinking" gradually permeates every aspect of one's life! One teacher confessed that she caught herself alertly watching for every error in thinking made by her colleagues! Not advocated by Dale Carnegie!

Difficulties encountered by teachers

At first, we assumed that home economics teachers had unique disadvantages when they tried to practice clear thinking for themselves. In teacher education curriculums, laboratory hours are long and teaching is pretty specific. So many areas of home economics subject matter have to be known to a secondary teacher that she rarely gets beyond basic courses to a point where she is free to do reflective thinking in something like a seminar. She probably writes fewer term papers, the indispensable discipline for clear thinking and ordered self-expression, than do majors in liberal arts.

However, apparently academic teachers are having equal difficulty in meeting this challenge. Without the recent research, probably no one in teacher education realized that to take the ability to think for granted as a natural outcome of a college education was over-optimistic, to put it mildly. Without the world revolution, perhaps the critical necessity for improved thinking on the part of all citizens would not have been recognized so keenly. Today sound thinking has become not only a social but a moral obligation.

We still contend that one factor in teaching family life increases the difficulty of aiding students to think straight, as compared with the coldly objective logic of mathematics and science. Long ago Stanley Hall said, "Intellect is a mere speck afloat on a sea of feeling." The waves of this "sea" break with maximum force during discussions on family life. To develop the ability to think calmly and objectively with due recognition of facts in this highly sensitive area might well be the most worthwhile gain from a whole year's study for an individual student.

With the somewhat indulgent attitude toward students found in many high schools, handling emotional discussions with the necessary courage and finesse strikes us as far harder than handling a discussion of isotopes. John Dewey in his Moral Principles in Education warns teachers of their responsibilities.

"But we know practically that the kind of character we hope to build up through our education is one that not only has good intentions, but that insists upon carrying them out. Any other character is wishy-washy; it is goody, not good. The individual must have the power to stand up and count for something in the actual conflicts of life. He must have initiative, insistence, persistence, courage and industry."

If this is prescribed for our students, how much more is the need for these characteristics on the part of teachers!

A case study for learning

Because Dr. Burton highly recommends the "case study method," we are reproducing a story that concerns a family situation involving three generations, with a step-mother for good measure. The author reports that it is an account of what actually occurred in a lower middle-class family and she describes the event vividly so that anyone can easily project himself into the situation with its realistic details. Dr. Burton considers that such case studies bring the learners "as close to actual participation as is possible."

Who are the "learners" we have in mind? First YOU, later your students. Why you? Because it occurred to us that you might enjoy and profit from trying your own hand at the idea and value learnings to be gained from this particular case study. So here are some guide questions that have been successfully used with senior high school students, and that we propose that you now read before studying "The Runaway." Following the story you will find spelled out for you some of the essential facts and feelings that a teacher should understand before attempting to use the story for instructional purposes. We realize that you will be free to "peek" but we hope you won't. It's lots more interesting to test your own knowledge and sensitivity first!

Questions for Study of "The Runaway"

I. Communication sometimes is difficult in families, as well as in other groups

1. Locate various words or phrases in the story that seem to have different meanings to different people. How would you define them?
2. Identify "colored" words that seem to express strong underlying emotions. What would be your hunch as to the causes?

II. Perception is different for each individual

1. On what seven factors is each person's perception based? Which one factor is considered most influential? Why?
2. How were these factors operating in the four characters in the story? What hunches do you have as to why these operated thus?
3. What is an example of insight in this account? How would you define an insight?

III. A hierarchy of values is an organization of values with higher and lower rank

1. What values of each person become evident during the episode? How did they come to have these values? Which are yours, too?
2. Arrange in descending order the daughter's values just before she left home. Make a similar list of the values she needs to acquire before going to college.

IV. Errors in thinking are often due to emotions somewhat out of control

1. Locate as many errors in thinking as you can, whatever the cause. How would you identify each of these errors by name?
2. Distinguish between unsound and sound thinking with the steps problem-solving used by Mrs. Thorne. Why do all of us do such "loose" thinking?

V. Growing into maturity, a person balances feelings with facts

1. What facts for understanding self and others would help the persons in the story? Formulate some of these facts in an organized outline of content.
2. What subject matter is available on the process of maturing that could be learned through this case study? How could objective learning be applied by each student in the class?

May we suggest that you jot down informally for your own enlightenment and satisfaction the best answers you can figure out to these questions. We trust you do not know all of them for that would make the fourth section of this issue a waste of paper! Quite obviously in these questions we have used an adult, professional vocabulary--the better to acquaint you with any terms that might be unfamiliar to you.

We'd be interested in knowing how you came out in trying to answer the questions suggested for your consideration. That, however, is strictly your own private business! Don't be chagrined if you occasionally found yourself at a loss. There are so many things to be learned so fast that difficulties are to be expected.

We selected this particular case study because it seemed to us to have great possibilities for your learning, as a teacher, recent developments in psychology and education. But we know it can also be highly effective in teaching students in senior high school, so we are sharing with you many suggestions gained from these experiences.

THE RUNAWAY

By Charlotte Armstrong
Courtesy of the Hearst Publishing Corporation

Mrs. Thorne came up the path carrying her overnight case in her left hand, with her good black coat hung over her left shoulder. Before she could ring the bell, her former son-in-law yanked his front door open.

"Mother Thorne! How'd you get here? Why didn't you call me? Give me that suitcase. Come in. Come in. We're in a mess." His sentences were staccato yelps. "Kate," he barked over his shoulder, "Here is Nancy's grandmother."

"Oh, Mrs. Thorne," said his second wife, Kate, a clean-complexioned blonde whose fine-boned face was shiny with fatigue. "I'm so glad. . . Please. . ." Her voice suffered a power failure.

The two women touched hands and cheeks. "Didn't take time to call you back," said Mrs. Thorne, who was a comfortable body in an olive-green, rayon dress and sensible shoes. "Jumped on the bus and here I am. What happened to Nancy?" The three of them had come into the living room, and Mrs. Thorne looked around eagerly.

"She's in her room," said the man, tensely. "You should have called me from the bus station. Oh, never mind." Robert dropped her suitcase and slid it into a corner with the sole of his foot. "You're here. Sit down. Help me, will you? I'm about to go nuts over this thing."

Mrs. Thorne sat down. Nobody asked her whether she'd had enough breakfast. Nobody offered coffee. Nobody inquired whether she would like to wash her face. This house was not functioning on a peacetime basis.

"You didn't sound this frantic on the telephone," she said. "What happened?"

"We don't know!" said Robert. "And what do you think of that?"

"We just don't know quite everything, yet." Kate's long fingers were nervous.

"I want--" began Robert.

"I think--" said his wife at the same time.

Mrs. Thorne didn't try to disentangle their voices. Her eyes checked the disorder of the room, the dishevelment of these people. Her ears made note of conflict. She wasn't at all glad that she had come. Mary Thorne was sixty-one years old and she led a quiet life that was entirely to her taste. Duty had brought her here. A call of the blood, she had fancied. She wished now that her conscience hadn't pricked her, or, to put it more accurately, that her imagination hadn't seen a fine role for Mary Thorne.

But it had, and here she was, seduced by it, and she was going to have to play the Wise Old Woman. She held up her freckled hand.

"One at a time," she decreed. "Kate, you'd better sit down and be quiet a minute." Kate sat down and bent her fair head with the part in the middle.

"I am Nancy's father," declaimed Robert, "and I am telling you that if anything had happened to Nancy. . ." His face was grim; his throat worked. Ordinarily he was a good-looking man, approaching forty with no strain. Now he looked older, and yet fiercely young, too. He paced the carpet with an angry spring in his legs.

"I want to know all about it from the beginning," said Mrs. Thorne, patiently.

"All right. Your granddaughter, Nancy Winters, aged seventeen, ran away from home!"

"When was this?"

"Last Tuesday. The first we realized. . . she didn't turn up for dinner. We phoned friends. No Nancy. We didn't find any message. Fact, we didn't even look for one. Who could imagine? When it got to be eleven o'clock at night, we were half crazy. That's when we got in touch with the police. They sent a man up and he found her note, in the mailbox, of all places!" Robert rubbed his head. "Note said she'd gone to get a job. Said it costs too much to go to college. 'Don't worry about me.' she said. Lot of nonsense! Seventeen years old! There's money! What was she thinking of?" Nobody answered him, and he went on. "Next morning the police got a trace of her. Somebody saw her climb aboard a bus. The ticket-seller remembered that she was going to Los Angeles."

"We--" began Kate

Mrs. Thorne's hand stopped her. "Go on, Robert."

"Okay. What could we do? She hadn't been kidnapped, or run down by a car. She hadn't eloped with some dizzy kid, or any of the stuff we'd been afraid of. She'd got on the bus of her own accord. So I didn't call you. Called nobody. We hoped we could get in touch, find her, and talk her out of whatever ridiculous. . ." He groaned in retrospect. "Of course, we got the Los Angeles police on it. I wanted to go down there myself. But the cops kept telling me I couldn't accomplish anything."

"The local paper--" began Kate.

"Yeah." Robert quelled her with a glare. "Somehow or other, the Thursday morning paper had it. 'Teenager disappears.' The phone calls started. You don't know what we've been through! People looking for juicy bits. Kate wanted to protect Nancy, so we couldn't let on we were even worried. I haven't had any sleep since I can remember. . ."

"But you found her."

"Found her?" he roared. "Oh, no we didn't! At eight a.m. this morning, in walks Miss Nancy Winters, under her own steam. Three days and four nights later. Well, I called you, then. I was afraid you might have seen something in a newspaper."

"But what happened to her?"

"She won't say," said her father and sat down with a thud.

"Won't say!"

"Nope. Oh, she says she went to the Y.W.C.A., stayed there, job-hunted. But I know there is more. Now I want to go in there and beat the whole truth out of her. Kate won't let me. Kate's been fighting me for hours." He bounded up again. "Look here, Mother Thorne. This is my daughter, seventeen years old. Alone in the city. Who knows what might have happened to her? Something did! She's had some trouble! I'll tell you that! She's home; she's alive; she's in there. She's about as unhappy as can be. And I've got to have the truth. What happened to Nancy?" He was shouting. "I don't care how much of a little fool she was, she's my kid, and nobody on earth is going to get away free if he took advantage, if he hurt her in any way. . . And if I have to slap the truth out of her, then that's too bad, but I--"

"Sssshh." Mrs. Thorne's insides were quaking. "Don't shout. I see how you feel." She did, too. She thought his feelings were entirely proper.

"But Mrs. Thorne," said Kate, leaning, her hands tight, "listen to me, please. I'm not Nancy's own mother, but I love her. I want to do what's good for her. I say we've got to be patient. We've got to make her feel that we aren't going to be against her, no matter what happened. Then she will feel free to tell us. Even if it is bad. Even if it is disgraceful. We mustn't rage and storm at her. She's unhappy enough. No, I won't let Robert go in there and bully her, if I can possibly stop him. Yes, I am fighting him . . ." She began to cry. Tears came out of her beautiful eyes.

Kate is right, too, thought Mrs. Thorne. She took hold of her thoughts and turned them away from the paralysis of right on both sides. "Nancy came back by herself?" she said.

"Yes, she did," cried Kate. "She must have taken the bus at six this morning. She came to us. Doesn't that mean we must welcome her and surround her with love--"

"You think I don't love her?" yelled her father. "It's because I love her that I've got to know--"

"What have you told the local papers?" Mrs. Thorne's question sounded shrewd and practical and let down the tension.

"That we had been needlessly alarmed," said Kate. "That we had misunderstood. The one thing we cannot permit is any bad publicity. We must stand between her and that. She's so young. Whatever happened to her can be understood--"

"Oh sure," said Robert, "and covered up. That fixes everything? When I can't count the phone calls already, asking questions. And I don't even know what I'm covering up."

"Robert," said Mrs. Thorne in a friendly way, "why don't you sit down? If you finally decide to go beat the truth out of Nancy, you can do it just as well a half-hour from now."

The man sat down and his excitement drained out of him.

"You talk to her," he said wearily.

"Yes," said Kate hopefully. "After all, her own mother's mother . . . Maybe you can talk to her. We . . . It's an impasse."

"I'll try, in a minute," said Mrs. Thorne. "Do you realize that I haven't seen a thing of Nancy since the day you two got married? And that was eight months ago. How has she been?"

"You are wondering if she ran away from me," said Kate sadly. "So is Robert. So am I." Kate was a beautiful woman and now she seemed flaming with beauty. "I've never been a wife before and I've never borne a child. Instead, I had a career, as you know. I was a model. Then I clawed my way up in the cosmetic business. I've been an executive and never before a . . . a homemaker. But, Mrs. Thorne, I could have sworn that Nancy and I were friends. I have respected her. I have not pushed her. In any way. Oh, I've suggested little things about clothes and grooming, but only when she has asked me. I mean, as a mother would . . ."

Mrs. Thorne's lashes fluttered.

"I really thought she was fond of me," Kate went on. "For a while she was so responsive. She began to have a livelier time at high school. Her senior year, you know, she dated a little. I've been so careful. I've treated her as a person in her own right . . ."

"Dates," said Mrs. Thorne thoughtfully. "Any trouble with the boys?"

"No . . . no," said Kate hesitantly. "At least, I don't think so. Nancy never went into a spin over the boys. Nor, actually did the boys . . . Well, I have no business criticizing."

Mrs. Thorne opened her mouth, but Robert spoke. "Her grades went into a spin," he said gloomily. "Kate didn't think it mattered. Nancy was getting valuable social experience. That's what Kate said."

"You said so, too," said Kate. "You told Nancy so, yourself."

"Under your influence," he snapped.

"Please . . . you know that the last thing I wanted to do was to influence . . ."

Mrs. Thorne took off her hat, which was beginning to feel too tight. "No big humiliation in school that she might have run away from?" she inquired briskly.

"Humiliation?" said Kate. "It's true, she wasn't asked to the big after-graduation party. We took her to a show instead."

"Did she mind?" asked Nancy's grandmother.

"Heck, no," said Robert. "Nancy's got too much sense."

"She has been a little flighty and strange," said Kate, "since school's been out."

"Strange," her father said. "You bet. Sassy and smart-alecky one day and moping in a corner the next. Kate calls it a phase. I had a notion to crack the whip and put her nose back into her books. Thought she might be tutored in math. I don't like this card full of C's. Kid's got a brain. Used to enjoy using it. But Kate says the right way is never whip, never push. 'Leave her alone,' Kate says. 'She'll find herself.' Now, look!"

He was bitter. Kate was suffering. Whatever had happened to Nancy, something deplorable was happening to these fine people.

"Tell me this, Robert," said Mrs. Thorne suddenly. "Why haven't you gone in there and slapped, as you say, the whole truth out of her, if you feel so strongly about it?"

He looked startled. Then he said savagely, "Because I'm scared. I'm scared that Kate may be right. I don't read the stuff she reads. You tell me. When Nancy runs off like a silly little goose and now won't even tell us what happened . . . what's broken her up so . . . isn't it my duty to find out? Am I wrong?"

Mrs. Thorne evaded answering. "When you ask the child what happened, exactly what does she say?"

"What I told you. Otherwise, she says, 'Nothing.' That's her word. 'Nothing.' Here she's been gone three days and four nights, looks terrible, eyes all puffed, looks tragic." Robert was beside himself. "Something happened to Nancy! And I'm supposed to be patient and understanding."

"But we must be," cried Kate. "How can that be wrong?"

Mrs. Thorne got to her feet. "Something is wrong," she said grimly. "Obviously. Well, you two sit here and hang on to your nerves. I'll see what I can do."

"Get it out of her," said Robert tensely.

"But please . . ." pleaded Kate.

Mrs. Thorne smiled and nodded reassuringly. She hadn't the faintest idea what she was going to do or say.

Nancy's room was at the very back of the long, low house. Mrs. Thorne knocked at the door.

"Who is it?"

"Grandmother Thorne. May I come in?"

"It's not locked," said the voice.

Mrs. Thorne opened the door. "Hi," said she.

Nancy was huddled against the headboard of her bed. Her eyes were swollen, but she was not crying now. Her face . . . a small and somewhat rugged face . . . was lumpy and woebegone and yet proud. Her dark hair was mussed. Her dress was wrinkled. She looked like something the cat had dragged in. She also looked a lot like her mother, who was dead.

"What are you doing in here?" asked her grandmother as cheerfully as possible. "Trying to crawl into a hole and pull it in after you?"

Nancy's dark blue eyes were cast down. She lifted her head, but she wouldn't lift her gaze.

Mrs. Thorne ambled to a maple rocking chair and sat in it. "You don't look as if you've had much fun," she said. "What happened to you, Nancy?"

"Nothing," the girl said with her head high. A muscle under her jaw was tight. The eyes stared tragically at the wall. Mrs. Thorne recognized the female "nothing," which means "something that I, most nobly and painfully, will keep to myself." It is the female "nothing" that drives a husband mad.

Mrs. Thorne rocked gently a moment.

"Why did you go away, I wonder?"

"I just wanted to," said the girl.

"And then you wanted to come back and so you did?"

"Yes."

"People do what they want to do, just like that?"

"Yes, they do."

"First I've heard of it," said her grandmother. "What made you think of the expense?"

"What expense?"

"College is too expensive. Isn't that what you wrote?"

"Well, it is expensive," said Nancy.

"And you don't think it's worth it?"

"Not for me." The throat worked.

Mrs. Thorne pushed with her toe to set the chair swaying. "Well, you may have turned stupid all of a sudden," she said, "but don't you think it is unnecessarily brutal to refuse to tell your mother and father what hap--?"

"I told them," said Nancy. "Let me alone, Gran."

Mrs. Thorne was still. She was at a complete loss. What did she know about this girl, holding a hurt head so high? What did she know about the inside of that head? Mrs. Thorne did not feel like a Wise Old Woman. Standards from her own girlhood were, no doubt, out of style in this day and age.

But perhaps not all standards. Candor, for instance. "I certainly wish I had stayed quietly at home," she stated, heartily.

Nancy blinked.

"I guess," said her grandmother, "I am not the Wise Old Woman. Oh,

well, everybody gets a picture of himself. This leads him on. Look at me. Your father sounded so upset, I thought I'd just come down here and straighten you all out." She sighed. "What an old-fashioned idea! Now, Kate's way is the modern way. Kate is just waiting. She's out there, keeping your father from giving you a mighty, old-fashioned beating, you know. She is waiting, ready and waiting to understand . . . any time . . . anything."

(What a liar I am, she thought to herself. What I say is true, but what I am doing is not honest. I am a conniving old woman. I am trying to fox the truth out of Nancy.)

She saw the girl's mouth twitch bitterly. "Well, I'm sorry," Nancy mumbled, "that there's nothing for Kate to understand. And I'm sorry you came for nothing."

Bitterness? Pride? Mrs. Thorne's ears seemed to herself to be standing away from her head in the effort to listen. She rocked slowly.

"Of course, that is Kate's picture of Kate," she mused aloud. "High-principled. Dedicated to respect." Nancy's face winced and Mrs. Thorne took note.

"Robert sees himself as your protector and avenger. That's his picture. Not bad pictures, you know. Either of them."

The girl's eyes squeezed shut. "I just wish everybody would leave me alone."

"Do you?" said Mrs. Thorne, as if this were a curiosity. She rocked. "There is a lot of nonsense being talked and thought in this house. Each of us trying to live up to a pretty picture of himself in his mind. What is yours, Nancy?"

The girl bent her cheek against the wood of the headboard. Her grandmother contemplated the part in the middle of the dark, untidy hair.

"I wish I knew how you see yourself," she mused on, "because that's the clue to this whole business. Are you, by any chance, a martyr?"

"No," said Nancy contemptuously.

"Not put upon? Not put out, by a beautiful stepmother?"

"Gran, don't talk like that. I'm not jealous. You don't understand at all." Nancy squirmed down on the bed and buried her face.

"Well, I'm interested," said Mrs. Thorne, cheerfully, "and you can't prevent it. Guilty, then?"

The girl sobbed once.

"I guess you think you've made a fool of yourself, some way."

Nancy ground her knuckles into her cheek. "I'm nothing. Nothing happened. I told you. Please leave me alone."

Her grandmother brooded a moment. "My," she said finally, with an air of surprise, "what big ears I do have!"

Now Nancy turned her face to look. The eyes were miserable . . . and wary.

"Of course, it's impossible to be nothing," said her grandmother.

"I'm guessing you've got your own picture mixed up. I have a picture of you in my mind that you are welcome to. I see you as a brainy child, a bit of an introvert, somewhat shy. You're no glamour-puss, that's sure. Well, your mother wasn't, either." Mrs. Thorne was rocking peacefully. "Your mother was a real bright, upstanding citizen. But not any beauty. Of course, she had found out who she was."

Nancy was looking startled.

"I'm just talking," said Mrs. Thorne, mildly. "Just remembering. I can remember, myself, the trouble it is to find out who you are. And that's in an ordinary family."

Nancy heaved.

"But, to your house, comes this Kate," Mrs. Thorne sighed. "Beautiful, kind, reasonable, just, admirable, and glamorous. I bet the high school boys couldn't quite appreciate a seventeen-year-old copy of that picture."

"I'm not copying," wailed Nancy.

"Why not?" said Mrs. Thorne calmly. "What we admire we try to be. When did you begin to part your hair in the middle? The trouble is," she went on, "you are naturally equipped to be rather like your mother, who was admirable, too. I'll bet the brainy old you feels terrible about a card full of C's. She doesn't deserve college, does she? But who are you, then?"

Nancy whimpered.

"Kate never went to college. Kate went to work, early. Kate carved out an adventurous, independent, successful life."

Nancy was now weeping without sound.

"Those stupid boys," said her grandmother in a slow drawl. "Why, you had to go out and conquer the world. Make a splash. Amount to something. Dramatically, too." Her drawl went on ruthlessly. "Burst forth. Show everybody."

"Go away," sobbed Nancy.

Mrs. Thorne did not go away. "It takes time," she stated flatly. "You forgot about that. Over and above her natural equipment it took Kate time. She's thirty-two. The one thing the young can't understand is time. How should they?"

After a moment, Mrs. Thorne went over to the bed and began to massage the girl's back. Gently she kneaded the flesh along the spine, and slowly, the girl relaxed and her weeping became audible.

"If you will use the brain that's in your head, in spite of yourself," said Mrs. Thorne "--and a little heart wouldn't hurt, either--you'll know perfectly well why your papa wants to go kill whatever dope-fiend got you in his clutches in the wicked city."

Nancy coiled painfully and uncoiled.

"And why Kate won't let him beat you," her grandmother went on. "There's no use being guiltier than you already are. What happened is awful." Mrs. Thorne's voice was perfectly sincere. "It's terrible. It's almost intolerable."

The girl was suddenly still as stone.

"But I can tell you that you are cruel." Mrs. Thorne's moving hand was gentler than her words. "Pretty awful selfish and cruel. The way you are acting is cowardly. Well, nobody is as cruel as a coward."

Nancy writhed.

"You will have to make everything absolutely clear," said Mrs. Thorne sternly.

The girl rolled over and gazed up from swollen lids.

"There's some creed that Kate's got hold of," said Mrs. Thorne, not looking down. "Never push a young person. Leave her alone. She believes that, honey. She read it in a book. Well, she never had a child. She's nobody's real mother. But I have been." Mrs. Thorne looked down and smiled. "So I will now tell you what you ought to do. Confess. Explain. Then, admit that college is your meat. You'll enjoy it and it will enjoy you. . .

and you may as well put up with yourself. As for this . . . your own mother would have seen it as an experience. Experience can be useful."

"I am a coward," Nancy said. "That's right, Gran." The dark blue eyes were intelligent now.

"Oh, we needn't explain to everybody. Just to the family. Yes, you can! Remember, it doesn't matter whether--or even if--they understand. It matters whether you do."

"How did you know?" Nancy sobbed.

"Oh, I'm pretty old," her grandmother said lightly. "Seems to me I've been all the ages in this house." She bent down and the girl's arms reached for her and the wet cheek came halfway.

"It was so awful . . ." Nancy began.

Ten minutes later, Mrs. Thorne came out of Nancy's room and Robert bounded up. Kate stiffened.

"Mrs. Thorne beckoned them with her to the kitchen. She sat down heavily at the breakfast-nook table. "It's very sad," she said, "and you will both try to remember that, please."

"To begin at the beginning, as I see it," said Mrs. Thorne, "when you two got married, Nancy got confused. She admires Kate, who is so admirable. Nancy is what you would call 'crazy about' Kate. But when she began to try to be Kate, one or both of you should have noticed, and helped her not to try too much. She was bound to fail. By the time she knew she was failing, Nancy had lost her grip on Nancy. Now then, Kate believed she must be left to 'find herself.' Robert hadn't read the books." They sat, stiff-necked. "So Nancy, lost, didn't know what else to do but go on trying to be Kate, a little harder. That's why she took off to meet the universe all by herself. Well . . . that's where the two of you had put her."

They looked stricken and she relented. "Oh, Nancy was wrong, selfish, and cowardly, and she deserves a good licking of some sort."

"But I'm crazy about her," Kate burst out. "I really am. All I wanted was for her to be herself . . ."

"If you love," said Mrs. Thorne patiently, "you give, don't you? All right, Kate, what have you got to give that's better than the benefit of your experience? For heaven's sakes, why should you let a child alone? Do you really think a mother is so conscientiously aloof that she is a style consultant, but only when she is asked? You do not treat a child as if she knows all you know, because the fact is, she doesn't."

Kate's face was breaking, and Robert touched her and looked at Mrs. Thorne with reproach.

"Oh, you shouldn't bully, either, Robert," said Mrs. Thorne to him. "A very bad way to try for truth is to slap it out. So you are both right and both wrong, which is just about par for all of us. Well--I am old and I remember. I say you must help a child to be herself and to stand up, of course. But meanwhile, you do lead, you do guide, you do matter, and you are an influence, whether you will or no. Until she can stand alone, don't you see that you must, responsibly, be what you really are--a garden-stake for a tender seedling against the wind?"

Kate's fair head was on Robert's shoulder.

"Now pull yourselves together," said Mrs. Thorne severely, "and I will

tell you the whole truth about what happened to Nancy. She got off the bus in Hollywood and went to the Y.W.C.A. She gave a false name, ah, because she's young. There she stayed, for three days, when she was not timidly walking the streets applying for jobs she couldn't get. Nobody was bowled over by her personality. Nobody gave her a chance. Nobody offered her an adventure. Nobody even made a pass at her. Nobody so much as noticed a shy, not very pretty, untrained, ungrown little girl. Now, she has suffered. You've got to get on to the square of it. The bitter whole truth is nothing happened to Nancy."

Robert gasped. Kate held her face.

"She came home," said Mrs. Thorne gently, "when it got just too painful."

Kate said, "I understand. I understand."

"Try to keep it to yourself a bit," said Mrs. Thorne, tartly, "if you do. And can't we just keep this confidential? Will it hurt if the neighbors wonder, just a little bit, what could have happened to Nancy?"

Robert said, "Nothing?"

"Her body lied," said Mrs. Thorne. "Her face lied. Her ego lied. So don't go blaming yourselves for not believing the word. Now, scold her. If you love her, therefore, scold her. Therefore, tell her what you think she ought to do. Listen, of course, but make her listen, too. Give her your arguments, your judgments, for a part of her heritage. She got lost because she had nothing to grow against. Just never flatter yourself that you understand her, all the time, or all the way. She has her mystery. And leave her that . . . to rebel with . . . because there's the growing point.

Mrs. Thorne stopped speaking, because she wasn't altogether up to herself or clear about what she was saying.

Kate said, indignantly, "How could she hurt us, wound us, act so as to leave us wondering! She could have made this clear!"

Robert got up. "The poor kid," he said, "as if she needed to be anybody but my own Nancy."

Mrs. Thorne said to him, crisply, "I'll tell you what you ought to do. Go in there and don't slobber. Nancy has been a little idiot and you may understand that, but you don't have to approve of it. You tell her she's going to college and no nonsense. Put your foot down. She's been telling a mean, cruel lie with that literal truth, and she should be punished. You make her get a tutor in math."

But Robert murmured, "Poor baby . . ." and stumbled away.

Mrs. Thorne looked after him and shook her head.

Kate said angrily, "She ought to be spanked!" Mrs. Thorne turned and grinned at her.

"I just wish," said Kate, with a pink face, "you could tell me how you reached her. I never did. How did you?"

"Why don't you make me a nice cup of coffee," said Mrs. Thorne, cheerfully, "and leave me my mystery."

She thought, it was luck. I rambled around and, by luck, it came to me to believe her words. I know you can tell a lie with the literal truth. How do I know that? I suppose because I can remember . . .

"I am pretty old," she said aloud, apologetically. "A good many things have happened to me, you know."

Is that wisdom, she wondered, if you remember to remember?

Semantics and Perception

The first question in the study guide related to the meanings of words in communication. Semantics is the study of the meanings of words as they function in spoken and written communication.

The responsibility of every teacher

Now please do not exclaim, "That's the job of the English teacher!" Of course it is in its technical aspects, but family life students are finding more and more that words are used as symbols of thought, hence their common understanding is vital in communication and their accurate meaning essential to clear thinking. Moreover, English teachers do not have the problem licked. One unknown instructor ruefully reports:

Bob smiled at me impishly.
I might have guessed!
"I spent eight hours over my English last night,"
He boasted.
I bit;
My heart thumped with joy,
One more sheep to the fold!
"Yeah," he chortled, "the book lay under my bed all night!"

You and I and the "man in the street" have even greater difficulties. This episode illustrates the latter's confusion, if it was an honest one.

"Ethics," the man told his son, "is vital to everyday living. For example, today an old friend paid me back a loan with a new \$100 bill. Just as he was leaving, I discovered he'd given me two bills stuck together. Immediately a question of ethics arose: Should I tell your mother?"

But before you laugh that one off, consider the educator who began his oratory by declaring, "Education is tottering on the edge of an abscess!" Or try for yourself the task of getting a group of teachers to agree on a definition without consulting Webster or the Dictionary of Education.

Different meanings for different people

No doubt you discovered in trying to answer the suggested questions that the word "nothing" had different meanings and implications for every one of the characters in the case study. Moreover, as the grandmother's understanding of feelings and facts about the situation increased, her interpretation of "nothing" changed. The account reports, "Mrs. Thorne recognized the female 'nothing' that means 'something that I, most nobly and painfully, will keep to myself.' It is the female 'nothing' that drives a husband mad." Later she realized that Nancy in using the word was regretfully reporting the literal truth but in a way to imply something else in order to save her pride.

"Love" may be a "many splendored thing" but it certainly connotes different meanings to different people and to the same person in different situations. Hence, the complexity grows. Dr. Burton points out that "No word means exactly the same thing to two different persons because each individual has a different background of experience with each word." Out of his experiences he develops a mental image that tends to represent the meaning of each word.

To the father "love" meant primarily masculine protection of Nancy from social disappointments, from disastrous experiences during her flight from home, and from notoriety and harmful gossip. To the step-mother, more accustomed to impersonal business relations than to the intimacy of family life, "love" meant respect for privacy. In her insecurity, she had accepted the complete permissiveness advocated by her book as evidence of "love." To the grandmother "love" meant nothing of the kind, but firm discipline and guidance to ultimately improve Nancy's own understanding of reality.

We know you must have noted many other examples of words with different meanings for different characters. For instance, "humiliation" and its after-effects meant a variety of mental images to the adults in the story and Nancy, although she expressed her abject distress only with the phrase, "I'm nothing," felt the most poignant meaning of all. Was "humiliation" also recognized as a "colored" word when you were seeking these out?

There is, of course, much emotive language used; "colored" words abound in every tense, emotional situation. Some are obvious. Others are far more subtle in their effect upon our interpretation. Just to give one example, did you notice Kate's description: "Then I clawed my way up in the cosmetic business." If we accept the emotive connotation of this verb uncritically, we may overlook the fact that the choice tends to arouse in us strong approval or disapproval, depending upon our different experiential backgrounds.

Helping students with the meanings of words

When we try to make our students not only aware of but mature in understanding what someone has called the "tyranny of words," we need first to find language for our explanation that will get across to them without too much loss of precision. The safety minimum level would seem to be simple words that will permit us to communicate further at a later time. Sometimes it is a help to ask yourself, "What words would these students use were they attempting to explain the same thing?"

Another constructive suggestion is to run through a short oral test on what students assume key words mean, then require them to investigate the meaning in Webster that probably is meant by the author. Vocabulary drill and review have a definite place in every home economics unit of study, not just in the family life area. Some authority has estimated that teaching the spelling, pronunciation, meaning(s), and discriminative use of a new word will consume about twenty minutes. And then students will forget it unless there is at least occasional review in the form of correct use. So the choice of a new word to be taught is no casual decision.

Authorities suggest that, to enable students to recognize and cope intelligently with emotive language with its possible distortions of meaning, we give them practice in trying to state the same information in more nearly neutral words. For instance, to substitute for Kate's emotional statement, students can produce something like, "I worked hard to become an executive in the cosmetic business" then ask themselves, "Does this statement make me feel strongly for or against Kate?" They justify the adjective "hard" as sufficiently factual since the outcome of an executive position is made clear in the same sentence.

Perception is not mere acuity of the sense of sight

Closely allied with the new importance attached to semantics is the significant role of perception in everyday life. Someone has remarked that we "see with our ideas and feelings, not with our eyes." Perception is defined as the process of organizing and interpreting with the mind the sensations the organism receives from external and internal stimuli.

Psychologists are deeply involved with research on perception, but not all the findings agree. The late Carl Gustav Jung liked to say: "With perception you know something is there. Thinking tells you what it is. Feeling tells you what it is worth to you or to others." In other words, facts and feelings are almost inextricably mingled in perception. For that reason, both researchers and the common man find perception extremely hard to "pin down" objectively.

However, there seems to be fairly general agreement in the research that perception for any person is based upon seven factors.

- * The nature of the physical organism he possesses
- * The length of time he has lived
- * The opportunities he has had in the past to perceive
- * The state of his current physiological and personality needs
- * The goals and values he holds
- * The experience of threat
- * The concept he has of himself

If you did not know these factors before, you will now find examples ridiculously easy to identify in the case study. So will your students, we predict, except for that last but by no means least item, "the concept he has of himself." The current self-concept of each of the four persons in the story is vividly spelled out by the author. The truth that people perceive what seems to them appropriate to how they perceive themselves is strikingly illustrated in all of the characters.

The self-concept of adolescents

At the White House Conference for Children and Youth, Dr. Daniel Prescott, University of Maryland, with the cooperation of the Children's Bureau, provided a list of the considerable number of factors which seem to influence the self-concept of the adolescent. These assume importance in using this case study in teaching high school students because almost all find it

easiest to identify with Nancy--at least at first. Of course, they all perceive themselves as far more mature than Nancy but their empathy with her comes out in the serious attempts they make to explain possible reasons for her "backwardness." Their imaginations suggest that perhaps her mother was ill a long time, required her to stay home and study until she became a "square," or perhaps over-protected her because she was an only child. Incidentally, that last assumption stimulates some emotive language from class members with the same presumed "handicap." Dr. Prescott's list includes the following.

- * His physical attractiveness and grooming
- * His organic health and vigor
- * His skill in managing his body
- * His emotional security or insecurity, largely dependent upon the climate of love in which he lives
- * The nature of his social and family background
- * The national, ethnic, and class cultures he has internalized
- * The role and status he has achieved in his peer group
- * The adequacy of his adjustment to home, school, and other community institutions
- * The kinds of adjustment mechanisms he habitually uses

An application of the seven factors on which perception is based

So readily and completely do students identify with Nancy that they find no difficulty and little disagreement as they attempt to apply to her reported behavior the seven factors on which perception is based. In fact, their acuity of perception continually amazes their teachers who do not find an understanding of a confused, rebellious adolescent quite so easy. Many instructors preferred to make the application to Kate and they tended to view her far more sympathetically than did their students. Even more teachers used the distraught Robert to illustrate this application. Perhaps they may have assumed that his dramatic personality and forthright black-and-white-thinking would be easier for their students to see.

The person who, next to Nancy, was most completely perceived by students was Mrs. Thorne. Of course, her character was really quite well developed in the story, although students frequently remarked, "She was doing a lot of quick and careful thinking in her mind that is not described by the author." Let us, too, use Mrs. Thorne to indicate briefly how the seven factors seemed to be operating in her case and in this situation.

Nature of the physical organism

Mrs. Thorne was pictured as enjoying both physical and mental good health. She lived a quiet, comfortable life which contributed to this health.

Length of time he has lived

As an older person with a background of experiences in family life, she believes that some of her conclusions may be helpful to younger generations, although she is keenly aware of the changes in society's values and standards.

Opportunities in the past to perceive

She has participated in the growing up and maturing of a daughter who had brains but no beauty in a period when intelligence was not rated as highly as it is today. (There was always some difference of student opinion on just how important the boys actually rated this over "cuteness.")

Current physiological and personality needs

Although she appeared to be glad to help where needed, she had left to the Winters family complete privacy in making its adjustments to the second marriage. She refrained from taking the part of "her own flesh and blood" against the beautiful new wife. She suspended judgment until she had adequate information, then pointed out impartially how each of the family could improve in terms of the mistakes she thought they had made. She is sufficiently secure in her own personality to accomplish this objectively and fairly.

The goals and values he holds

She valued a peaceful, tranquil life and felt no need for fashionable clothes or the excitement rather enjoyed by Kate and Robert. She sees herself--and usually believes--that she is a Wise Old Woman. She can laugh at herself when she realizes that she has been "seduced" by this into an unpleasant situation where her wisdom may and may not be adequate. She feels strongly that differences should be accepted and built upon by individuals and, above all, that parental responsibility entails loving but very firm discipline and guidance.

The experience of threat

The way that threat can confuse perception is clearly indicated in the other characters. but Mrs. Thorne is a calm, collected person who has managed to weather many alarms and approaches life with self-confidence. She has faith that, if she can get to the core of even a complex problem, her experiences will guide her because she has apparently reflected upon and learned from these throughout her life.

The concept he has of himself

All the preceding comments suggest why she perceives herself as a Wise Old Woman most of the time--cherishing peace and privacy for herself but reasonably unselfish when called upon, courteous and open-minded but with plenty of spunk to take a stand on an important issue, loving but not abnormally involved or dependent upon relatives, accepting old age comfortably yet acting with youthful speed and decision when these are called for, as when she explained, "Jumped on the bus and here I am." She sees herself as a self-disciplined person and, approving the results in terms of genuine enjoyment of life, cherishes self-discipline as a top-priority value for everyone.

Insight as related to perception

According to a recent dictionary, insight is wisdom and understanding in dealing with people or with facts. Again, feelings and facts are linked. But psychologists see insight as the occurrence of a mind arranging experiences of a person's life in a different way than ever before and suddenly coming up with a new impression. Just as is true in creativity, insight rarely occurs in a person devoid of ideas and values to rearrange.

In student discussions, the father was seldom used as an illustration of a person displaying insight. Girls were inclined to be amusedly tolerant of his wholehearted male blundering and, like Mrs. Thorne, to think his feelings were entirely proper. However, when Mrs. Thorne was pointing out the error of their ways after talking to Nancy, some felt that Robert had a sudden insight of how Kate was being hurt when he "touched her and looked at Mrs. Thorne with reproach."

Of his wife, Kate, they were less tolerant. They realized how difficult she had found a change of role, that she had done the best she knew how to do in reading some "authority," and that there were such tremendous differences between herself and Nancy that her perception was not keyed to any clues which Nancy might offer. But they felt that Kate was on the defensive because she feared that Nancy's leaving may have somehow been connected with her. Students are inclined to suspect that she fears "bad publicity" as much for herself as for Nancy.

To help students to evaluate their own judgments in the case of Kate, one instructor gave each a sheet of paper on which she had duplicated:

"Oh, I've suggested little things about clothes and grooming, but only when she asked me. I mean, as a mother would . . ." Keeping this comment of Kate's in mind, quickly complete the following statement:

A good stepmother

Replies to this open-ended sentence were first read by the teacher, then returned to the writers without comment. Not only did the teacher get some evidence on the values of her group which aided her to focus her later discussions more sharply, but the students, after twenty-four hours, got some eyeopeners on their own prejudices about stepmothers and their appreciation of their own parental guidance. With this self-knowledge, the students decided that Kate had shown insight when she said, "It's an impasse" and thereby acknowledged that "her own mother's mother" might well accomplish more for Nancy.

Mrs. Thorne, on the other hand, was uniformly approved for her insight when she caught the possible implications of Nancy's parted hair. Another illustration of her insight was when she decided to try candor, yet realized that her action was not wholly honest. On the whole, the grandmother was seen as the strong person in the episode, and one girl volunteered grimly, "What a lot of families need right now is a Mrs. Thorne who has her good sense and time to use it in helping others." The underlining is ours;

the pressures of time are accepted by today's youth as probably inevitable but also regrettable. Perhaps an insight on this student's part?

Feelings in Thinking

Your analysis of the case study must have already convinced you that feelings are more powerful determiners of action than are facts unless we make the greatest effort to distinguish between facts and our interpretations of them. We organize from our personal experiences and social environment rather permanent attitudinal patterns for what we hold to be good and true and right. These are known as values.

Teachers are agents of reality for their students. Theirs is the responsibility of giving students practice in distinguishing between facts and feelings. Since value patterns are learned, they may also be unlearned or at least modified. Considerable time is required usually because values are more constant than not.

Values are inferred from behavior

In case studies, as in real life, values cannot be seen. They can only be inferred from behavior. They, therefore, represent one subjective part of the thinking process. Subjective factors are within the control of the individual, and consequently are susceptible to gross error. Training in the self-control of these inner factors is obviously a great need if our students are to think accurately and realistically. Yet practically every problem solving is a functional interaction between feelings and facts, as they run in a common channel.

Many values are unrecognized by the person holding them. This is a challenge as thorny as it is universal. And the condition occurs most frequently in immature individuals--the very ones who often boast that they "use their hearts instead of their heads in making choices"--the thoughtless sentimentalists. When, for instance, students tried to assign values to each person in the story, they themselves were surprised and pleased at the group agreement. Moreover, since they were of necessity limited to the same account, their ideas on the sources of these values were similar though not quite identical. But they were astonished and stymied by the question on their own values. Were you?

What is the teacher's responsibility?

Dr. Dorothy Lee, a lecturer in anthropology at Harvard University, writing in the Journal of Home Economics, February, 1960, on "The Individual in a Changing Society" states: "How can we help the individual have a meaningful life in a world of change? For me, one important way of doing this is to help our young people become aware of the value content of their everyday life, to recognize the values channeled through the simple operations they perform, and to be aware of the values at the base of their choices and decisions." At the 1961 AVA meeting, Mrs. Georgianna Hardy, a member of the Los Angeles Board of Education, urged teachers of home

economics and industrial arts to "provide a basis for value judgments," to "teach evaluation of what is best for many."

Not too long ago some educators held the philosophy that values must not be imposed. To assume responsibility for the consequences of their actions was all these philosophers required of individuals. Results of this policy were soon seen to be often seriously detrimental to society. If you can get hold of Marriage and Family Living, Vol. 19 (1957), read on pages 325-339 "Teaching Ethical Values Through the Marriage Course," and reflect on your own beliefs. The article is a provocative discussion between two family life specialists, Henry Bowman and Richard Kerckhoff. Dr. Bowman takes the affirmative position in the debate, Dr. Kerckhoff the negative.

Dr. Brown states her position in reasonable but forthright terms. "Contrary to some thinking, the teacher does have a responsibility in the development of values among her students. The discipline of home economics was founded on the value of the welfare of man and on the value of the welfare of the family. To abdicate teaching directed toward these values, and other values consistent with these two, places the teacher in an impossible amoral position."

Sound processes of valuing can be taught

This at present has not been fully established by research, hence should probably be labeled an assumption. However, today's literature accepts this can be achieved through constant emphasis and practice, just as can any other basic tool skill. Quite generally accepted, too, are certain outcomes of such study. Conscious growth to meet individual needs may be:

- * Recognizing presence of values as a motivating force in own and others' activities, practices, and decision-making
- * Clarifying different ways by which values may be expressed
- * Understanding how values influence perceptions, memories, images and ideas in daily living
- * Seeking out sources of their own basic values and testing their relative strengths
- * Evaluating important values by forecasting possible consequences of acting upon these values
- * Accepting the need for and developing some ability in changing their own values
- * Recognizing conflicts in group living and respecting, even often enjoying, value differences
- * Reasoning logically in order to validate value judgments as parts of a consistent personal philosophy

Theory and techniques for developing these outcomes have been offered in detail in three previous issues of the Illinois Teacher of Home Economics. These are:

Vol. III, No. 7, Teaching Values in Home Economics (through stories and skits)

Vol. IV, No. 5, Developing Understandings about Values through Films

Vol. V, No. 3, Venturing in Democratic Values through Role-Playing

The price of each issue is fifty cents.

Establishing a hierarchy of values

After lengthy struggles, students decided that an unqualified ranking of an individual's values was impossible. They found need for adding "at a given time" and "in a specified situation." As one student remarked, "Wait until Nancy gets a good boy friend and watch that shake up her values."

However, you may enjoy comparing your adult perceptions of Nancy's values with those apparent to adolescents. Don't take the ranking too seriously, although it is representative in a general way.

Before Nancy ran away

Value changes after this experience

Being a copy of Kate
Self-esteem
Success in world of work
Independence
Satisfaction of impulse
Social popularity
Beauty
Excitement
Freedom to be stubborn
Concern for others
Home and family
A college education

A clear self-concept
Self-respect through maturing
Acceptance of own assets and liabilities
Firm, directive guidance
Success in college
Family concern and support
Trust in others
Mental ability
Long-range goals
Reflective thinking
Social popularity
Good appearance

Teachers are always being amazed by the subtle interpretations a class can evolve. For example, the adolescents decided that Nancy attached little importance to her family but pointed out that her note, "Don't worry about me," indicated that she took for granted their concern about her. They laughed at the fact that Nancy, when talking to her grandmother, had already forgotten that she had given as her major reason for leaving until reminded, "It costs too much to go to college." They sensed the general rebelliousness of Nancy's spirit--rather admired it, in fact. But the only word in their vocabularies that seemed to them to express this value was "excitement," incongruous as it appeared in timid Nancy.

Class discussions, as always, were very revealing of individual students' values, but each was left to make her own applications. However, the really excellent list of changes recommended for Nancy led the instructor to hope that there might ultimately be some value changes in class members, too.

A few suggested learning experiences

Since objectivity is extremely difficult to maintain in a person who is emotionally involved, early and frequent use of cartoons, case situations, skits, stories, films and film strips are recommended as common experiences for classes to study. Mature students can grow through role-playing after some practice. After time has been expended in making a group acquainted with one type, specialists urge that its possibilities for student learning be thoroughly exploited. Unexpectedly, most students have approved of this.

Students themselves discovered that they could "catch" values rather better through listening than through reading. Here are some of their experiences, always with emphasis on the "whys."

- * They listened to exactly what Nancy and Mrs. Thorne said, as read by two class members, with the author's descriptions omitted. Then they compared what feeling each believed lay back of such phrases as Nancy's "Well, I'm sorry."

- * Part of the class "brainstormed" rapidly on suggested topics; the other group tried to identify the values being expressed. Some topics were:

If you had been Nancy, exactly what would you have done on arriving home?

Where might Nancy have gotten help if she were attending this school?

If you had to have Kate or Robert for a parent, which one would you choose?

If you found yourself assigned to help Nancy become more popular, how would you go about it?

If Nancy were to go back to getting good grades, with whom might that jeopardize her social popularity?

What constructive steps could Nancy have taken that summer instead of running away?

- * Various students role-played different situations; the remaining students were divided according to the number of roles and were asked to watch only the one character assigned--words, voice, gestures, facial expressions and body changes. After the role playing, interpretations were compared with the conclusions of other observers and how the role-player said she felt.

Nancy is telling Kate and Robert that she has no bid to the after-graduation party

Robert and Kate are having a conference during Nancy's absence on her increased social activities but drop in grades
Nancy emerges from her room while the three adults are having coffee

Grandmother Thorne is given the responsibility of talking with a reporter who is insisting upon an interview with Nancy

Nancy meets a friendly elderly neighbor whom she has always liked but now the lady asks about her being away from home
Grandmother Thorne is reflecting while going home on the bus and just possibly making some good resolutions

Facts in Thinking

"O wad some Power the giftie gie us
To see oursels as others see us!"

--Robert Burns

This weakness, alas, is particularly likely to show in us when we are looking at failures in reasoning--of course, others' failures. Over and over students deplored the emotional reactions that passed for thinking on the part of Nancy, Kate and Robert. Said one student in disgust, "Positively, Grandma is the only one who's using her head!"

Obviously that realization would have opened the way for a good class discussion on "what is good thinking?" However, the immediate interest of the students seemed to lie in pointing out the error of their ways to the younger and more dramatic characters. So errors in thinking were attacked first.

What are the most common errors in thinking?

Authorities list many errors but apparently nearly all have an emotional base. Felix Frankfurter, recently resigned Justice of the Supreme Court, spoke of the "cruelty of unbridled, undisciplined feeling" as compared to reason, weak though it might be. In this, possibly the most critical period of our nation's history, we cannot afford such undisciplined thinking based largely on emotions!

Here are errors in thinking in "The Runaway" that have been identified by high school students. You might like to compare them with your own. The types of errors are accurate and fairly distinct. But in real life as well as in this case study, the examples offered for one type may well be a combination of types. Don't be disconcerted if a quotation, used here to illustrate one type, was identified by you as representative of a different type. Undisciplined thinking based on emotions is never organized as neatly as the following presentation would seem to indicate.

* Black-and-white thinking

Robert: "I haven't had any sleep since I can remember - An exaggeration

* Cliche

Robert: "People looking for juicy bits" - A timeworn idea not necessarily true

* Contagious thinking

Kate: "You are wondering if she ran away from me. So is Robert. So am I" - Ideas, right or wrong, spread uncritically from one person to another

* Emotional bias

Mrs. Thorne: "People do what they want to do, just like that?"

Nancy: "Yes, they do."

Mrs. Thorne: "First I've heard of it!"

- Emotions in complete control, leading to irresponsible thinking

* False authorities

Kate: "She came to us. Doesn't that mean we must welcome her and surround her with love?" - "False" because today's specialists on adolescence emphasize that love and togetherness are not enough; they advocate firm and reasonable parental discipline that will, in turn, lead to the development of self-discipline

* Generalizing from too few cases

Nancy: Generalizing from the experience of one person, her step-mother, she thought she, too, could succeed in the world of work with only a high school education

* Irrelevant thinking

Kate: "Nancy never went into a spin over the boys. Nor, actually, did the boys . . . Well, I have no business criticizing." - As it happened, Kate's concern about Nancy's not dating was "off the beam" because Nancy's admiration was all for Kate as a dynamic, successful business woman

* Misconception

Kate: "Humiliation? It's true, she wasn't asked to the big after-graduation party. We took her to the show instead."

Mrs. Thorne: "Did she mind?"

Robert: "Heck, no, Nancy's got too much sense."

- This was a mistaken notion on her father's part; Nancy's major obsession was, of course, to copy Kate, but she was too intelligent to fail to "mind" such an open rejection by her peers

* Rationalization

Kate: "Please . . . you know that the last thing I wanted to do was to influence . . ." - Finding (often quite unconsciously) an explanation or excuse for one's self; Kate was forced to this rationalization through realizing her inconsistency in pushing the value of social experiences while stoutly contending that Nancy should be left to find herself

* Self-interest thinking

Robert: "You don't know what we've been through!" Kate wanted to protect Nancy, so we couldn't let on we were even worried." - Here the father is taking the act personally, not looking for the causes nor really thinking much about its ultimate effects on Nancy and Kate

* Stereotype thinking

Nancy: "Gran, don't talk like that. I'm not jealous." - According to a frequently accepted "picture in the mind," an adolescent step-daughter who was not pretty would almost certainly be jealous of a beautiful step-mother

* Unverified assumption

Robert: "If I have to slap the truth out of her, then that's too bad, but I . . ." - Here Robert implies his regret but insists that the proper evenging of Nancy's wrongs (another unverified assumption) is his reason for wanting to use brute force on her; actually he probably wants it far more as an emotional outlet for himself

* Wishful thinking

"Mrs. Thorne wasn't at all glad she had come. . . She wished now that her conscience hadn't pricked her, or, to put it more accurately, that her imagination hadn't seen a fine role for Mary Thorne." - Wishes are like a kind of magnifying glass. When we see something we like, we tend to see it way out of proportion to its actual size. Facing a very difficult reality, Mrs. Thorne was mature enough to see the situation for what it was--not merely a place to display her talents as a "Wise Old Woman"

Identifiable steps in sound thinking

With no recourse to professional treatises on problem solving, the students were now ready to identify the procedures by which Mrs. Thorne managed to solve the immediate problem in the case study. This experience paid far richer dividends in a full understanding of the processes in sound thinking than would any effort to follow a prescribed list in a fixed order. The truth of the matter is that what Dr. Burton calls "thought-in-process" is seldom smooth nor sequential.

Dr. Burton states forthrightly and realistically: "Thought-in-process includes innumerable errors and corrections, digressions, discussions ending in blind alleys, the laborious trial of guesses, the tedious process of evaluating and validating. Terms must be defined and redefined; schemes for classifying one's ideas must be made and often scrapped. There are analyses, selection, and description of ideas. Many, many errors and successes appear before the problem is solved." You can readily identify, between the reported and unreported thinking efforts of Mrs. Thorne, clear examples of every one of these mental activities.

However, while the finer nuances may escape adolescents, all were able to perceive the major procedures used by Mrs. Thorne. And this was done in spite of the tense, emotional atmosphere throughout the story. This is a difficult achievement. Perhaps the students were aided by the same advantage ascribed by them to Mrs. Thorne. "Sure she could think straight! She wasn't so close to the whole mess!"

* Identify the problem

"I want to know all about it from the beginning" - Patiently Mrs. Thorne asked questions until the sequence of events was fairly clear and she could inwardly formulate the first problem to consider: Why did Nancy leave home, then return voluntarily saying she'd looked for a job but could not find one? After solving this problem, a second one must be faced: What should be done?

* Recognize the central issues

Mrs. Thorne's probing questions about dates, humiliations, moods after graduation, attempted to get at more than the when, the how and the what of Nancy's trip to Los Angeles before she tried to talk with her.

* Define and understand words and phrases

Some of these were:

Robert's "runaway" when actually Nancy left a message and returned of her own accord

Kate's "I mean, as a mother would" when extreme permissiveness was far from being Mrs. Thorne's idea of a parent's role

Nancy's "nothing" to which Mrs. Thorne attached a sophisticated "feminine" meaning but later realized it was the literal truth

* Determine assumptions and their possible implications

Robert's self-concept as a protecting and responsible male

Kate's self-concept as beautiful, high-principled, respecting the individual

Her own concept of "coming down and straightening you all out"

Nancy's false copy of Kate versus her real self

* Formulate possible solutions by recalling selectively

Mrs. Thorne suggested to Nancy's parents possible hurts; to Nancy martyrdom, jealousy, and guilt feelings as possible causes on which she might work. Finally, by recalling her own and her daughter's experiences while growing up, she found a true base from which to work.

* Collect pertinent facts, in the meantime suspending judgment

Mrs. Thorne evaded passing judgment on either Robert's or Kate's ideas, and honestly faced the fact that at first she was at a complete loss with Nancy, but continued to collect facts as best she could

* Evaluate information on feelings and facts

This evaluation took place in the mind of Mrs. Thorne and, for the most part, was not reported in the account but had to be inferred from her strategy evident in words and actions

* Utilize effective processes of thinking

Mrs. Thorne kept to the point at issue

She thought sequentially, in so far as she was able to elicit ideas from others

She checked her information against the solution she was testing; she wondered how totally Nancy was trying to copy Kate and, as she said, "What we admire, we try to be"

She recognized many relationships in the whole situation; for instance, the hair parted in the middle and the desire for a job were obviously related to Nancy's efforts to change herself to be a second Kate

She reasoned from many such recognized relationships to the causes for Nancy going away, accepted the literal truth of her account, and deduced why she had to return home

She pulled together and looked critically at all the information she was accepting, seeking as complete an understanding as possible of why Nancy had acted as she did, including where each member of the Winters family had erred

* Draw a tentative conclusion in the form of a general statement

In Mrs. Thorne's last words to Nancy, as reported in the case study, she offers a sound, constructive general statement but, as usually happens even in textbooks, to say nothing of in real life, the complete statement has to be formed from a combination of her remarks. It might be something like this: "All experience can be useful for growth if aspirations and expectations are kept within the framework of an individual's actual possibilities."

Students, however, were not satisfied to stop with the formulation of this one general statement, after they had observed a teacher "patch together" the above. They tried their hand at additional ideas they believed had been shown in the case study. A few of these are:

Only by being himself can an individual establish his own identity

Because every individual is unique, expectations and aspirations should differ

When liabilities that cannot be changed are accepted with a minimum of conflict, mental health can be maintained

The more fully developed are an individual's assets, the more useful and satisfied he is likely to be

Clear and considerate communication is essential to good inter-personal relationships

Parents should give firm, consistent guidance to their children, even when they are in high school

The second problem: what should be done?

The last two statements above are value judgments, you will note. Instructors, intent on emphasizing Dr. Burton's stand that even value statements "should have some reference to credible sources," challenged their students to locate in reference books support for their judgments. Statements of acknowledged authorities were accepted, even though they were not directly derived from research.

The fact that students voluntarily formulated such value judgments might have prepared their instructors for their approval of Mrs. Thorne's solutions to the second problem. Teachers, prepared in an earlier period of child and adolescent psychology, were inclined to feel that Mrs. Thorne's proposals and way of phrasing them were far from democratic. "But," argued the students, somebody had to take a strong stand! When she was willing to stick her neck out, it showed she cared what happened to all of them." Curiously enough, research evidence is beginning to accumulate to support their attitude. One study showed that not until adopted children found themselves undergoing the same rigorous discipline that other parents were meting out to their own offspring did the youngsters feel secure about their place in their families.

A Mature Balance of Feelings and Facts

Convincing and profitable as a study of "The Runaway" is, quite obviously a broader and deeper understanding of problem solving in family situations of many kinds is needed by our students. Today, as never before, we have texts and references from which one can cull facts, principles, and generalizations that are sound and, if recently printed, in harmony with the conclusions of up-to-date research.

Understanding ourselves and others

Psychologists have evolved some content that is basic to each person's understanding of himself and others. Students of limited ability can learn the fundamentals in the outline that follows if:

- Adequate study is given to word meanings
- Generous class time is allotted for much practice in applying the ideas to problem situations
- Deliberate attention is given to the operation of these fundamentals in informal as well as classroom activities long after the material has been presumably thoroughly taught

1. Each individual is the product of three factors

1. Certain biological factors
 - a. Inherited factors--from both mother's and father's family
 - b. Physiological factors--health, body functioning, maturation
2. Environment and life experiences
 - a. In one's family
 - b. In one's community, church, school
 - c. Certain emotionally-weighted life experiences
3. One's personal response--how one feels about himself and how he feels and reacts to these experiences, to other people, and to situations
 - a. How one "takes" experiences is much more important than what actually happens
 - b. One's general personality is determined by the way one meets situations

II. Every individual of any age has common basic needs

1. Organic needs

- a. Nutritional
- b. Physiological
Sleep, Rest, Elimination, Proper temperature, Activity,
Freedom of Movement
- c. Sexual

2. Personality needs

- a. Affection
- b. A sense of belongingness
- c. Recognition and self-approval
- d. New experiences
- e. General security

III. Today's individual encounters numerous and complex problems that offer increasing frustration and uncertainty

- 1. Extreme rapidity of contemporary cultural change
- 2. Increasing physical mobility; decreasing social mobility
- 3. Shifting age structure of the population
- 4. Conflicting values held by different generations and groups
- 5. Occupational hazards--barriers to entry, increasing complexity,
increasing routine

IV. Every individual, confronted with frustration in meeting needs, develops ways of adjusting to such situations

1. Acquired habits of adjustment may be wholesome or unwholesome

- a. To the degree that a way adversely affects one's perceptions of reality, it is unwholesome
- b. To the degree that a way helps rather than interferes with one's social effectiveness, it is wholesome

2. Common ways of adjusting are:

- a. Sublimation--deliberately substituting a socially desirable activity or good for one not socially accepted
Redirects natural impulses based on desires and emotions
Brings harmony into the process of adjustment
- b. Compensation--placing extra emphasis on some trait or activity, thus reducing the tensions occasioned by a personal defeat
Attention-getting devices developed to gain approval
Identifying one's self with achievements of other admired persons or things
- c. Relationalization--justifying one's actions by giving socially acceptable reasons to protect one's self from acknowledging real reasons
Projecting upon others unworthy traits or motives in which one feels one's own inferiority
Securing the sympathy of others in order that one may avoid a problem or obstacle

- d. Withdrawal--retreating from participation in life's experiences
 - Extreme shyness, timidity and lack of decision
 - Daydreaming of phantasies
 - Seclusiveness to an increasing degree
 - Taking illness as a way out
- e. Retrogression--the returning to ways of making adjustments
 - that are more appropriate to a lower age level
 - Negativism instead of facing up to difficulties
 - Reaching for yesterday--"the good old days"

V. Every individual should realize that attitudes and habits of adjustment are learned, hence can be changed

1. Counting one's blessings tends to relieve emotional tension and promote objective viewpoints
2. Seeing people and conditions as they really are can be achieved, even though causes of human behavior are numerous and complicated
3. What cannot be changed must be accepted with a minimum of conflict
4. The consequences of one's own decisions and behavior must be accepted with honesty
5. The ability to meet situations as they arise is aided by an inner faith that one can capitalize on anything that life does to him

Self evaluation is helpful

After students have "put some flesh on the bones" of this suggested outline of minimum essentials for understanding themselves and others from their texts and other references, they are ready to try to identify their own characteristics. Dr. May Westbrook, Associate Professor of Home Economics, Northern Illinois University has published through the University's Educational Materials Center a scale for identifying one's own level of maturity which has proved effective with senior high school students. She has given us permission to offer you portions that deal respectively with intellectual and emotional maturity. Fifteen cents mailed to the Center will bring you the complete scale; request a copy of Indications of Maturity and Immaturity. We had space only for the whole part on intellectual maturity and one section (III) that deals with emotional maturity.

Directions:

When we are traveling by car we have highway signs to guide us. Likewise in our lifetime journey towards maturity there are signposts to guide us. The following scale is a list of those signposts. It is a compilation of ideas from various scales. It is neither complete nor "finished" and has been made for use by students.

One can rate himself on each of the following items by checking the proper position on the line:

"3" is average
 Below "3" is below average
 Above "3" is above average

In order to have something to measure against, it seemed necessary to have perfection or almost perfection for number "5" on the mature side. One should, therefore, not be disturbed by having no "5's" or very few "5's." If one would check his status on each item and connect those checks with a line, it would ordinarily be a line going back and forth across the page. It would be well for one to lean on that line and push the kinks out of it.

It is not wise to strive for perfection. The best mental health and satisfaction will result from expecting to make a very gradual improvement toward maturity. Perfection in a few of the items is relatively easy to reach, while in others it is very difficult. Growth is a slow process and a lifetime job, but the rewards are more freedom, contentment, and security.

Indications of Maturity and Immaturity

<u>Intellectual Maturity</u>	
<u>Immature</u>	<u>Mature</u>
1.	5.
a Distorts reality to suit feelings. Magnifies small items, fails to see the whole. May imagine many things, tell untruths, or exaggerate. Lets feelings color thinking.	Looks at situations squarely and objectively. Recognizes clearly the difference between what he imagines or feels about a situation and what is <u>real</u> or <u>fact</u> about it.
b Satisfied with surface symptoms and bases judgment on what seems apparent.	Can search back to the underlying factors involved in any situation. Not satisfied with surface symptoms.
c Is extremely curious about the personal elements of situations and in the affairs of others	Genuinely curious about causes and effects of situations as they affect own welfare or welfare of others
d "Jumps to conclusions." Bases judgment on insufficient evidence. Impatient of evidence contrary to first impression.	Makes tentative judgments based on all available evidence. Revises them when new evidence indicates a need for it.
e Unwilling to listen to ideas different from his, or believes almost everything he sees or reads. Can be persuaded by emotional appeals.	Considers suggestions by others but responds according to own judgment. Recognizes propaganda, and is skeptical of sweeping statements.
f Does not benefit by his own or other people's experiences	Profits by his and other people's experiences. Searches for experiences through which he could profit.
g Thinks of who can help him rather than trying to solve the problem. Wants parents or others to make his decisions	Attacks any problems that he can solve. Gets whatever help is necessary. Can make up his own mind. Does not rely on others to make his decisions.

<u>Immature</u>			<u>Mature</u>	
1.	2.	3.	4.	5.
h	Argues--tries to prove his points. Does not listen to the opposing ideas. Ignores questions from other people. Has no tact.		Discusses rather than argues. Presents his point of view and wants to hear other viewpoints. Searches for "truth." Answers questions. Differs without giving offense.	
i	Cannot accept any adverse criticism.		Asks for and accepts constructive criticism. Profits by it.	
j	Offers only destructive criticism. Disregards need for criticism to be given privately.		Makes, wherever possible, constructive criticisms, including calling attention to good points and suggesting improvements. Recognizes when it should be given privately.	
k	Will not admit errors. Lies or argues to get out of tight place and to escape unpleasant results.		Recognizes graciously his errors and takes responsibility for them.	
l	Knows little about and is not interested in wise use of money. Does not budget; makes poor investments.		Can successfully manage money to attain his goals which are acceptable to society.	
m	Thinks that to be of one sex would be better than being of other sex. Wishes to be of opposite sex.		Realizes that each sex has its own advantages and disadvantages. Is satisfied with being of own sex.	
n	Has distorted or false ideas concerning human reproduction.		Understands principles of human reproduction. Knows truths about prenatal influences.	

Emotional Maturity

III. Adjustment to Everyday Situations

<u>Immature</u>			<u>Mature</u>	
1.	2.	3.	4.	5.
a	Faces new or difficult situations with worry or feelings of frustration. Fears he cannot measure up to his standard of success.		Faces new situations with self-confidence and determination to do best. Is willing to accept and adjust to his degree of success. Concerned but not worried about situation.	
b	Believes either that he can do almost anything or that he is a complete fallure.		Realistically appraises his abilities and limitations. Makes most of abilities and opportunities; accepts his limitations.	
c	Wants immediate fulfillment of personal desires. Lets tomorrow take care of itself.		Can endure present discomfort and sacrifice for future gain. Makes long-range plans calling for sustained effort.	

<u>Immature</u>				<u>Mature</u>
1.	2.	3.	4.	5.
d	Stops when things become monotonous or difficult. Gambles on having luck or on not having to put up with consequences.		Will follow through on plans which are worthwhile completing. Realizes that most worthwhile attainments require some disciplining of self.	
e	Frequently gets "fed up" with everybody and everything and feels like getting away from it all.		Makes satisfactory adjustments to everyday conditions which may be monotonous, difficult or frustrating.	
f	Is careless and haphazard about work.		Is methodical and painstaking in work which is worthy of that effort.	
g	Feels either that he is a misfit and a failure, or at other times he is a "wonderful" person. Measures worthwhileness of life in terms of prominence or money earned.		Judges himself in terms of all those factors which go to make up successful living according to the best authorities.	
h	Depends almost completely upon praise of others for personal satisfaction.		Gains lasting satisfaction primarily from successful performance of task rather than from praise. Appreciates praise. Evaluates success according to his self-appraisal.	
i	Either scoffs at praise, compliments and success or enjoys them beyond their true value.		Accepts praise, compliments and success appreciatively and without losing a sense of proportion.	

A technique that reveals something of students' concerns and knowledge

If students are asked to state a listing of their own values and problems, as they were able to do for Nancy, most have little success. Try this on yourself and you'll understand their difficulties.

But a few home-made devices can be surprisingly revealing to both students and teacher if students are required to make "instant" responses without being given time to figure out "I wonder what she wants?" Here is the procedure we have used, with three specific examples described in enough detail that you can use the ideas readily even though you may not have the same pictures.

- * Select some "human interest" pictures that depict youth appearing to be in some kind of trouble. We got ours from some discarded texts, but magazines and newspapers will provide them, too. These can be thrown on a screen, one at a time, with the accompanying questions preferably on duplicated sheets on which students can write their replies after their brief glimpse of the picture. It is seldom wise to use more than three pictures at one time, we have discovered.

- * One picture showed a teen-ager answering the telephone in the hall at her home. Her body is tense and she has a very distressed look on her face. We asked:

What do you think might have been happening here?

Some typical answers were: "A boy is breaking a date to go to the prom with this girl," "The Superintendent is telling her that she will not graduate," and "She has just learned that her parents have been in a car accident"

What do you think this girl values?

Some typical answers were: "The girl valued the fun and friends she would have at the prom. She is hurt that she will not be there. She values her pride," "She did not value studying enough!" and "She values love of parents and a quiet happy home life"

What have you learned from "The Runaway" that would help you solve such a problem?

Some typical answers were: "We have learned that a prom is not the most important thing in life; you still have friends, so learn to live with some unhappy problems," "We would have learned beforehand that you have to study; she should pick up where she failed and try again," and "Think clearly about a situation before you act"

- * One picture showed a girl curled up on a sofa holding hands with a boy. The girl is looking rather desperately at the boy as he prepares to say something that is apparently very serious. We asked:

What do you think might have been happening here?

Some typical answers were: "The boy is begging the girl to go steady," "The boy is about to propose marriage to the girl," and "The girl has just told the boy she is pregnant"

What do you think these teen-agers value?

Some typical answers were: "They value companionship and security among their friends by knowing they will have each other to date all of the time," "By their expressions they are taking this matter very serious; they must value the importance of a good engagement and marriage," and "(They did not value their morals very much) They only valued satisfying their desires immediately and disregarded the future"

What have you learned that would help you solve such a problem?

Some typical answers were: "Going steady is a first step to getting deeply involved," "Marriage is a serious step in life, so should be thought about carefully," and "We learned not to get into such a mess in the first place, but since they are they'd better confide in each other, then their parents"

- * One picture showed a married teen-age couple consulting with a serious gentleman concerning some problems they have encountered. The boy and

girl, looking not too worried, are seated in front of a large desk and the older man is directly across. We asked:

What do you think might have been happening here?

Some typical answers were: "They are asking a man from a loan company if he will help finance a car for them," "They are talking to a marriage counselor about their in-law problems," and "They are talking to a minister about their inter-faith marriage problems"

What do you think this couple values?

Some typical answers were: "They like pretty new cars and want other people to see that they can have a new car," "They value a solid foundation on which to build their marriage (They do not value their in-laws' help)," and "They value the hope of having a good marriage even with different religious beliefs"

What have you learned that would help you solve such a problem?

Some typical answers were: "You should save some money instead of spending more than you earn; this couple should find out exactly what hidden costs are involved in financing a car," "In-laws are human beings--consider them as such," and "If the couple is married, the time to try to solve their religious problems is before they have a family"

You will note that in far too many cases answers to "what have you learned?" left much to be desired, especially in the factual materials of thinking. To get away from individual feelings and onto the basis of facts for thinking critically on the problems raised, each student may "draw" some other person's paper on which three replies are written.

To create a respect for subject matter--not just relying on good will or "horse sense," each student now has recourse to every reliable book on family life in the local community. Urge them to explore local and State public library services, the possibility of using references owned by religious, welfare, legal, health and any other leaders who might have appropriate help to offer. Remember, after youth leave school, these outside sources are the ones they will be most likely to tap.

There was a time when class reports were as dull as dishwater. No more! Why? Because higher standards required for preparation result in better presentations. First of all, they learn at once that every report must be written well enough to pass on to the English department for a grade. A librarian's help is available for locating and using intelligently the resources of her own and other libraries. An informational outline must be approved by the teacher, and no report can be written until this approval is secured. All library "research" and writing must be done independently. However, if two or more turn up with the same problem, presentations may be put on by the individuals involved. This provides for variety and some imaginative presentations.

Is THIS home economics, you may be asking! Yes, it is if we are going to prove to the world that "Home Economics IS a Think Subject," as one poster at a school exhibit proudly stated.

Is this WORK, others of you may be moaning. Yes, it is--but how very rewarding! One teacher was rash (or wise) enough to give her able students in Senior Family Living a short recall test to determine just what they had learned from a lively panel discussion on inter-faith marriages by representatives of different religious groups. Alas for her peace of mind! The total collection of ideas was appallingly small--and half of those were misconceptions! You can imagine her relief when, after putting her next class through our recommended procedures, the English teacher congratulated her on the thoroughness and discrimination shown by her students' written reports and asked, "How did you do it? You're getting better results than I am!"

English Literature can be pretty remote to today's teen-agers, compared to their sincere, even urgent interest in family life problems! Therein lies both our tremendous advantage and our serious challenge. CAN we give up some of the enticing experiences of doubtful value for learning and substitute rigorous intellectual attacks that even students can perceive as more worthwhile for substantial growth in thinking? The difficulty of the task does not absolve us from undertaking it.

The Teacher's Challenge in 1962-63

We are frequently told that we are "at the threshold of a renaissance in education in America." Educators believe that this can never be achieved until all students--even the dull normal--can leap the barrier from learning to thinking. Unfortunately, neither at the secondary nor the college levels do all educators perceive home economics as a vital contributor to this desired excellence.

How interested and able are we to try to meet this challenge?

According to studies made by social agencies, the breakdown of the American home is one of the major reasons for the ills of today's society. Family breakdown can be as destructive to an individual as a serious disease. So the need for family life education as a stabilizer for all youth still exists. Why, then, are our contributions being questioned? Perhaps in a spirit of responsible critical inquiry, we should take a look at ourselves.

Have we been teaching the less essential aspects of home economics?

In 1939 Miss Beulah Coon, through the Office of Education, made a national survey of what, how much, and to whom home economics was being taught in the public schools. In 1959 she repeated the study. There was all too little difference between the 1939 and the 1959 pictures. Yet the world in which our students had been living had been changing with almost cataclysmic speed.

The per cent of periods spent in each grade on the average was

roughly 30 and 34 per cent in foods and clothing, six and eight per cent in child development and family relations, and around nine per cent in housing. Consumer education with three per cent and management with about two per cent were the lowest areas. Yet these last five-named areas include some of the most critical choice-making problems of families. They are the areas where unknowns are involved, an original decision or conclusion is required, and practice in thinking is most effectively provided.

From sixty to seventy per cent of the periods in foods and clothing were devoted to preparation and construction. Operational tasks in these two aspects usually involve known factual elements; the general scheme of the answer is known. The task is to manipulate the known elements for the accomplishment of a known and desired result. Such tasks can but rarely do challenge the students' ability to think.

Has our philosophy been one of too kindly student indulgence?

In neighboring towns are two teachers of Senior Family Living. On the chalk board of Teacher A is written:

"Sweet is the smile of home; the mutual look
When hearts are of each other sure"

Students take turns telling what this means to them in their present lives, with the teacher adding a spark to the dull, repetitive procedure by dispensing extravagant approval and sentimental comments. However, student attention wanders. There is a mounting undercurrent of noise and movement that threatens to get out of control but the instructor ignores it. Just in time, the bell rings.

In the classroom of Teacher B, committees are reporting on their selection of two texts, one primarily for the study of marriage, the other for the general aspects of family living. After a cogent resume of the contents of each book examined, the committees recommend their choices with reasons. Evelyn Duvall's 1961 Family Living was used by last year's class and was the selection of this year's committee. The second recommendation was a surprise--Robert Blood's Marriage, a superior publication of 1962 but designed for college level. The enthusiastic committee unanimously declared that "It has the stuff! Meaty! Just what we want to know!"

The instructor questioned neither choice but warned the class that if they used Marriage, they would work as they had never worked before. Pleasantly but firmly one of the Diversified Occupations students who worked half days in a laundry replied, "But Mrs. B! We don't have time to just fool around!"

After each class was over, the teachers' remarks were illuminating. Said Teacher A: "Weren't the students darling! I just love to teach a family-centered course! And the class is so nice and small, too!" Said Teacher B with a delighted chuckle: "Rough year ahead for everybody! Friend Husband is going to see me even less than usual! But didn't you admire the serious attitudes of these students? Work experiences have certainly speeded up their maturity."

Teacher B, of course, is far more in tune with the times. Consequently next June she will undoubtedly be able to look back at the growth of her class with deep satisfaction. Thinking? Certainly; "from each according to his abilities, to each according to his needs." Today in this country it takes 300 tons of "happiness pills" (tranquilizers) to meet each year's demand. Surely we can hope that these serious, thinking students will be able to handle their future marital and family problems without recourse to pills.

A call to action in 1962-63

In her bulletin Dr. Marjorie Brown defines an educated person as "one who (1) has developed intellectual power and (2) has a well-defined system of values." If we assume, as our primary responsibility, the development of competence in thinking with feelings maturely subordinated to facts, we shall hold our place in the total school program. But we and our teaching must change--rapidly, radically, and responsively.

Did you notice that recent headline in the newspapers: "ASKS TEACHERS TEACH GRIT, GUTS, GUMPTION"? This New England speaker at a national meeting pleaded: "Our American heritage of self-reliance and ability to successfully struggle against hardship, as well as the ability to stand on one's own feet, is evaporating. Parents' and teachers' philosophy of keeping youth "happy" and "free from frustration" is harming them and will eventually harm society."

If students need "grit, guts, and gumption," so do we as teachers! PTA members have already been alerted to their need. In the June, 1962 PTA Magazine the national president issues a ringing challenge to "dispose of easy, routine tasks with dispatch and devote energies to wrestling with the toughest problems that confront parents and teachers . . . eagerly, fearlessly, resolutely . . . valuing convictions above popularity, we must think anew and act anew!" If parents are thus inspired, can teachers do less?

We welcome new and former subscribers of the Illinois Teacher of Home Economics most cordially. We are glad so many are willing to attempt to s-t-r-e-t-c-h their minds and try to make a distinctive and strong contribution to the central purpose of American education

Sorry! Please do not send any more orders for "The Pay-Off in Home-making." Our supply is now exhausted. Thank you.



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DEVELOPING THINKING ABILITY THROUGH CHILD DEVELOPMENT PROBLEMS

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DEVELOPING THINKING ABILITY THROUGH CHILD DEVELOPMENT PROBLEMS

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"Don't cry, Bobby! Jimmy didn't mean to run you down with his tricycle," the nursery school teacher soothed. "Cry!" the irate tot exclaimed furiously as he picked himself up, "Cry? I'm going to sue him!" It is said that many disciplines are involved in the study of the child and the family-- psychology, sociology, anthropology, religion, economics, political science, health and social welfare, home economics, and even law. Young Bobby already had a vague sense of the law.

James Hymes in his 1959 volume, A Child Development Point of View, expresses it this way. "This field is eclectic. That is a nice way of saying that Child Development steals from other disciplines what it can use. But it does not steal everything. It is very selective, a kind of gentleman thief. It takes only ideas which can throw light on normal development, although it takes them wherever it can find them." Indeed, home economics, as a whole, is an applied field.

Children are important

In such selection and application, the stakes are high! The importance of the child in our society is generally recognized. The future of the world is in the hands of today's children. It is also recognized that the kind of family in which he grows, the love, respect, guidance, and discipline he receives from his parents and other family members will largely determine the kind of person he will be and the role he will play in the society of the future.

Since we are having an explosion of knowledge as well as an explosion of population, and information and conditions are in constant change, what today's child has to learn has been just recently increased a hundredfold. Margaret Mead, a noted anthropologist, offers one intriguing thought here. Says she, "Mankind's prolonged childhood is its most valuable possession. Our large brains, our capacity to learn far more than we have as yet invented that is worth learning, would be of no use to us if we grew to adulthood in a half dozen years."

A teacher's responsibility

Nevertheless, indifferent and indestructible as some children may seem, every day of living influences a child's development for good or ill. The role of home economics is to try to help families meet the challenge and responsibility of guiding their children in their physical, social, intellectual and educational, emotional and moral growth. Since there continues to be a high rate of teen-age marriages, every high school teacher is

challenged to aid her students to gain some insight into the responsibilities involved and to help them to be good parents.

In Teaching for Critical Thinking, C.B. and Jean Wellington point out that "Cooperation in the classroom entails insistence by the teacher upon learning subject matter, but at the same time recognition of student needs for which this subject matter offers help, and constant aiding of students in the process of problem solving and judgment." Fortunately rare is the student who fails to recognize her need of preparation for parenthood. Patient and thoughtful problem solving, alas, is not quite so readily accepted.

Teaching Child Development is not a matter of attempting to give dogmatic rules that will insure success in rearing any child. Every child, every adult, and every situation is different. However, because of society's stake in the welfare of children, a body of knowledge derived from observations and research is now available to teachers. There is no longer any excuse for devoting much class time of a unit on Child Development to making stuffed toys. Definitive subject matter but differing situations provide an ideal condition for students trying to develop thinking ability.

Different issues, different aspects of the teaching problem

In issue No. 1 this year the authors endeavored to clarify what may turn up as obstacles to calm, objective thinking and suggested ways to help adolescents to recognize the place of reasoning in the process of maturing. In this issue No. 2 we have tried to offer you highly condensed information from the research and professional literature now, like Spring, "bustin' out all over" in university libraries of Education, Psychology and Philosophy.

Because child growth and development is likely to be almost as emotionally weighted as family relationships, this seemed to be the logical No. 2 issue. Of course, values, recognized or unrecognized, appear in most of our decisions; hence, they can never be ignored completely in teaching any area of home economics. Nevertheless, the next two issues, based respectively upon the fundamental disciplines of economics and of chemistry, show that reasoning can dominate the learning where principles from the behavioral and physical sciences are the foundations for content.

The Role of an Organized Body of Subject Matter in Modern Education

Have you ever had the fun of examining home economics courses of study published in different decades? It is an illuminating experience! Since home economists have always tried to keep in step with current trends, the various publications illustrate the way emphases in education have changed over the years.

Ancient history

For instance, let's take a look at a 1922 Texas Course of Study, considered a model in its time. In their college training, the home

teachers who were expected to use this Course had often studied even more basic Science than they had Home Economics. Offerings in our field have only been gradually developed in many directions since that "test-tube cookery" era. Curiously enough, the organized body of subject matter, based on the sciences, seems similar to what we are asked to develop today. Similar, but not identical!

To select just one example, the outline of food constituents, obviously based upon related science principles, met two of the criteria demanded today. First, it represented a body of subject matter in well organized form. Secondly, the subject matter was clearly derived from the fundamental sciences as they were then taught. In those days that was the way home economics had to gain respectability.

Once acceptance was fairly general, home economists were free to turn their concern about their field becoming respectable to concern about the extent to which their teaching was of service to their students. They were stimulated to this both by their own humane instincts and by the Progressive Education movement that emphasized the uniqueness and worth of the individual.

Still later the concept of Life Adjustment became of paramount importance and home economists got so involved in personal and group guidance that content as such seemed to sink into the background. Learning experiences dominated the courses of study. Progress of a student was evaluated in terms of life adjustment. Any such attitude as the Wellingtons' "insistence by the teacher upon learning subject matter" was very rare indeed." If this seems too harsh an indictment of ourselves, just keep in mind that academic, as well as non-academic teachers, were busily engaged in keeping all students happy and free from frustration. Parents, too, used these same yardsticks for appraising their efforts to guide the children's growth and development within the family circle.

Education since Sputnik

Suddenly and most disconcertingly, the advent of Sputnik altered the picture! Critics, reasonable and unreasonable, began to blame the schools as they had never been blamed before. Parent educators abandoned apparently forever the concept that love was enough, and turned their attention to helping people set limits within which children could learn and grow under firm family discipline. The colleges and high schools upgraded their admission and scholarship standards as more and more parents and children realized the necessity for a college education.

However, perhaps the most potent influence of all stemmed from the millions of government dollars poured into the preparation of new academic courses so patently called for in a Space Age. First to be developed from grades one through twelve were Mathematics, the Sciences, and the Foreign Languages. New approaches, new methods and test items, new teaching aids, and, above all, an organized body of subject matter that but faintly resembled the old concepts were developed by specialists. All these were

refined in experimental use by classroom teachers. Then began widespread in-service training of teachers, much of it subsidized at public expense. So successful were the results that other academic fields received grants to similarly develop their teaching.

The over-all purpose of all of this upgrading was to help young Americans become interested in and able to use their rational powers in doing straight thinking. But no one can practice the processes of thinking in an intellectual vacuum. Facts are essential. Yet even the students know that, with change so unbelievably swift, facts that are true today may become obsolete in a very short time. Consequently, even in dealing with young adolescents, the goal of learning how to think through practice, as in acquiring any skill, has to assume a clear-cut importance in students' minds. And in teachers' minds!

Can we meet this challenge?

WE MUST! And loyally we are trying. The Office of Education, through its staff in the Home Economics Education Branch, has undertaken to categorize the major areas of our field and to assemble the essential broad generalizations in each of these. Suggested outlines of these categories have been distributed in tentative form, and workshops are being held to determine the reactions to these by representative classroom teachers, city and State supervisors, Deans, subject matter instructors, and teacher educators in colleges and universities, as well as members of the Office staff.

Just in case some of our readers have not yet seen the eleven categories set up by the Office of Education for the field of home economics, here they are.

- I. Families in various societies
- II. Families in our own society
- III. The individual in the family
- IV. Management for achievement of goals
- V. Consumer competence and responsibility
- VI. Art in everyday living
- VII. Development of children and youth
- VIII. Shelter for individuals and families
- IX. Clothing for individuals and families
- X. Food for individuals and families
- XI. Health of the family

Some classroom teachers have not been able to identify where two aspects of great interest to their students may fit into the categorical organization. These aspects are preparation for marriage and preparation for parenthood. Undoubtedly these will appear eventually for most studies indicate that graduates rate the worth of their home economics study in direct ratio to the quality of their instruction in these aspects of family life, plus certain aspects of management of resources and consumer economics.

National and state efforts

Dr. Bernice Mallory from the Home Economics Education Branch of the Office of Education reported at a Clothing Department's program at the June meeting of the American Home Economics Association the progress up to then. She told of their interest in the challenge even before the 1961 summer meeting at French Lick, Indiana, which highlighted the need for thorough study and organization of the subject matter content of home economics at both high school and college levels. During the year of 1961-2 she reported the following attacks upon the problem.

- * Publication of a report of the French Lick Conference under the leadership of Dr. Paul Dressels. Copies of this were reported to be available for a nominal sum from the College of Home Economics, Michigan State University
- * Some subject matter committees formed at French Lick were reported to be continuing their work
- * The Office had secured the services of specialists in related fundamental disciplines to identify basic ideas in their fields that could be applied to the content of home economics
- * Staff members had gone to Palo Alto, California to study with Dr. Ralph Tyler, Director of the Center for the Study of the Behavioral Sciences, the problem of the way that the Office could assume leadership in order to give the stability to the program that is enjoyed through the research projects in the academic fields

In turn, most State Departments are attempting to formulate statements of essential content that are of a lower order of abstraction than the broad generalizations being prepared by the Washington personnel, but must be learned before the nationally selected generalizations can be fully understood. Apparently, these efforts are taking a variety of forms but are pretty generally being prepared by committees of classroom teachers under the leadership of a State Supervisor.

The task promises to be long and difficult

Since several years were consumed by the academic specialists in preparing their rejuvenated teaching materials, the home economics program will probably go forward even more slowly. This need not prove as discouraging as may appear in print. For one reason, classroom teachers can use most effectively what they understand. Participating to a greater or lesser degree in the preparation of subject matter statements is one of the best ways for them to acquire not only an understanding but also an appreciation of all the factors involved when a high degree of selectivity is involved.

Another reason may turn out to be that the present rather nebulous results from research on developing the ability to think may soon be on the point of a massive "break-through" that would tremendously reduce the difficulty of our know-how. Such a break-through would, of course,

contribute to the improvement of all teaching at every level. But it still lies in the future.

What can individual teachers contribute in 1962-63?

As we perceive the situation, each classroom teacher can do at least three things. The first obviously is to study whatever publications are distributed from the Province or State Office in her own capitol. If these, plus whatever presentations she may hear at meetings during the year, are analyzed with an open-minded acceptance to change, they should prove helpful.

The second opportunity that will undoubtedly be open to many of our readers will be participation in working with some group studying the problem of content in the public school curriculum. Such a group may be as small as two or three teachers employed in the same high school, in the same city, or in neighboring communities. Or some of you may be members of State Committees or Sub-Committees, possibly assigned to one of the major categories tentatively proposed by the Office of Education. Just remember that most democratic movements need lots more little Indians than they do Chiefs!

Again, for one reason or another, you may find it best to try to make individual progress by yourself. Take comfort from some findings from studies of group size. The group of six or eight may, through matching wits enthusiastically and perceiving statements from several different angles of experience, arrive at content statements that are of more general applicability than may an individual. On the other hand, although independent study may lack the stimulus of exchange of ideas, it frequently develops greater depth of understanding on the part of the lone worker. This outcome can probably be shared with others eventually. Asked how an individual teacher could grow, a consultant at one Annual State Work Conference warned that it might be wise to confine one's efforts to a single unit. Thereby, time might be gained for doing some reflective thinking on WHY results were as they were. Through trying to arrive at the reasons for results, a teacher grows in depth of understanding.

Basic assumptions on thinking

In the 1961 bulletin, The Central Purpose of American Education, published by the Educational Policies Commission, appear these statements. "Although the substance of knowledge does not of itself convey intellectual power, it is the raw material of thought. The ability to think cannot be developed or applied without subject matter. . . . Further, the processes of thought demand the ability to integrate perceptions of objective phenomena with judgments of value in which subjective emotional commitments are important elements. Perceptions of the feelings of individuals--one's own and those of others--also provide data for the processes of thought."

Stated more simply, educators and researchers now assume four ideas to be true. As you are aware, an assumption is a statement not necessarily requiring proof but essential to the solving of a problem.

1. A democratic society requires rational thinking as a tool for decision-making in an unpredictable future.

2. Materials of rational thinking by every mature citizen include both facts and values.
3. The total thinking process is a functional interaction between the two.
4. As maturity increases, objective reasoning tends to influence decision-making far more than do feelings.

So one fact of life seems abundantly clear: we must exploit our opportunities for students to practice thinking with values. The presence of values in family life choices and decisions has been recognized for some time. This periodical provided issues on teaching with values in Volumes III, IV, and V, respectively. But not until the appearance of the epoch-making book, Education for Effective Thinking by William H. Burton, Roland B. Kimball, and Richard L. Wing did we realize that we could and must organize a body of value-judgment statements as a part of our recognized subject matter.

How can value-judgment statements be identified?

In 1961 Dr. Marjorie Brown, Professor of Home Economics Education at the University of Minnesota and engaged in professional research on developing the ability to think, published a bulletin, Home (Learning) Experiences which to date is the only "depth" reference we have located in our own field. It may be secured for sixty cents from the University of Minnesota Campus Book Store. We have gained so much from this publication that we would like to recommend it heartily to our readers.

For one thing, Dr. Brown helped to clarify for us the difference between a value-judgment statement and a factual statement supported by objective evidence. She states: "Values operate in judging and reasoning as to what ought to be, what is right, what is good." Once you get this clue, it is not hard to separate value from fact statements. For example, when "should" and "ought" are used, the statements are usually value judgments. When qualifying adjectives such as essential, desirable, important appear in a statement, they obviously represent the speaker's judgment of what is good.

May we suggest that you do a little practicing on this distinguishing of value judgments from factual principles or generalizations in the way we have? You will need to first locate the units in child development in your own State's course of study. We helped ourselves to a copy of the New Mexico Home Economics Curriculum Guide because the units were so clearly organized around basic statements of subject matter, followed with several learning experiences for developing meanings for each in the minds of students. Here are a few value statements appearing among many more factual statements, as is the present trend in proportions between the two types.

"Providing a variety of play materials and proper setting is desirable for development"

"Heredity and environment are important to the development of the child"

"Having an interest in children is necessary to understand and guide them intelligently"

"Good habits are essential to one's health and well-being"

"A home should provide ways for meeting physical, emotional, mental and social needs of children" ('ought' might have been substituted for 'should' since Webster says both may express a duty)

"To keep a child safe and happy, the baby-sitter must follow directions" ('must,' too, seems to indicate an obligation of great importance)

Can a value-judgment statement also be an objective fact?

However, the situation becomes more complicated when there is in a statement a distinct inference of what ought to be yet there is ample evidence to support this same statement as factual. Some such "hybrids" appear in the New Mexico publication. Here is one that seems to us to combine objective facts with some implicit value judgments.

"Properly selected clothing contributes toward the child's personality and physical development"

There is no question but that studies have established the general truth of this statement. One of the suggested experiences further explains supporting facts for this generalized statement.

"Class sets up standards for suitable clothing for children, such as:	
Appearance	Growth provisions
Comfort	Wearing qualities
Self-help	Suitability to occasion"

All of us can be "noble in the abstract"

Yet when teachers and students come to applying "properly selected" to choices between real or catalogue garments for solving problem situations, it is entirely possible that a wide range of value judgments will come to light. Agreement with an abstract statement of either values, facts, or a combination of these often appears easy to achieve with a class group but may be one of the reasons for our students rejecting their learning later.

For instance, an unmarried instructor with upper-middle class values may need to let students explore and express values, too. One teacher asked each of her students in an adult class to arrange these six standards in order of their importance to them as young mothers. Upon the challenging of a supervisor, she had previously arranged a list of her own. The resulting lists contributed to her self-concept.

Standards arranged in descending order of importance

<u>Teacher's arrangement</u>	<u>Average of rankings by class members</u>
Appearance	Wearing qualities
Suitability to occasion	Growth provisions
Comfort	Self-help
Self-help	Comfort
Wearing qualities	Appearance
Growth provisions	Suitability to occasion

This teacher of adults was just out of college where she had learned that an instructor should always try to analyze the reasons for any serious error she might make. She knew that she and the young mothers were about the same age so the acknowledgedly great difference between generations could not be the cause. She wondered whether her life in a sorority house had made her unduly conscious of fashion and appropriateness in dress. Perhaps the several classes she had enjoyed in Clothing and Art had left a stronger impression than had the meager study of money management which she had not enjoyed in Home Management? Of such experiences are values developed. Now for the first time in her life, this teacher was mature enough to use values as well as facts as materials for rational thinking.

Conflicts between cherished values and objective facts

All adults encounter such conflicts.* They resolve them as best they can. For instance, turn back to page 54 where the "Basic assumptions on thinking" are listed. In the first assumption there is an obvious implication that rational thinking is what ought to be in a society where all citizens' votes are presumably of equal worth and influence.

Actually, research in political science, as well as your own observations, have established the truth of the statement, "A democratic society requires rational thinking as a tool for decision-making in an unpredictable future." Some years ago a noted political scientist, Wilfred E. Binkley, made a comprehensive study of "What motivates the voter making a decision?" He concluded that, by and large, the decision is reached by nonlogical processes. He stated, "If there is one determining factor, it is probably the climate of opinion in which the voter has lived and this was originally provided for him by his family." Later studies have indicated that, as constant crises have agitated the public, voters seem to have become even less rational as any facts they may have are buried under deep emotional issues.

Such examples of conflicts between a social theory of what is good and the harsh realities of life have challenged the group of specialists developing the curriculum in social studies--and, we might add, materially delayed their progress toward publication. We have similar dichotomies in the area of child development. For example, we home economists firmly believe that "all boys and girls need to study and work with young children under guidance as preparation for parenthood." Yet several thousand young mothers, a representative sample of Illinois, reported that they judged

they received the most help from child rearing, from, in descending order, their mothers, their doctors, and their religious advisers. Both school instruction and 4-H training came well down the list of sources to be checked.

This conflict of one of our firmest beliefs with the reported consensus on use of school instruction is probably the most disturbing outcome of an extensive state survey on Illinois homemakers' present practices and reactions to the various areas of home economics taught in schools. Does this finding possibly suggest that, among other errors, we may have tried to introduce too many values in care of children that these young mothers have rejected because they are so sharply in conflict with facts as they know them? For instance, have our standards for children's clothing and playthings perhaps sometimes been unrealistic?

Just as these conflicts between values and facts have proved highly stimulating to teachers of social studies and home economics, so will problems involving such conflicts help students to develop the ability to do rational thinking. For example, Dr. Brown suggests the following learning experience that a twelfth grade class in family living in Illinois found fascinating as they discovered some of their own beliefs were in conflict with research by social welfare specialists.

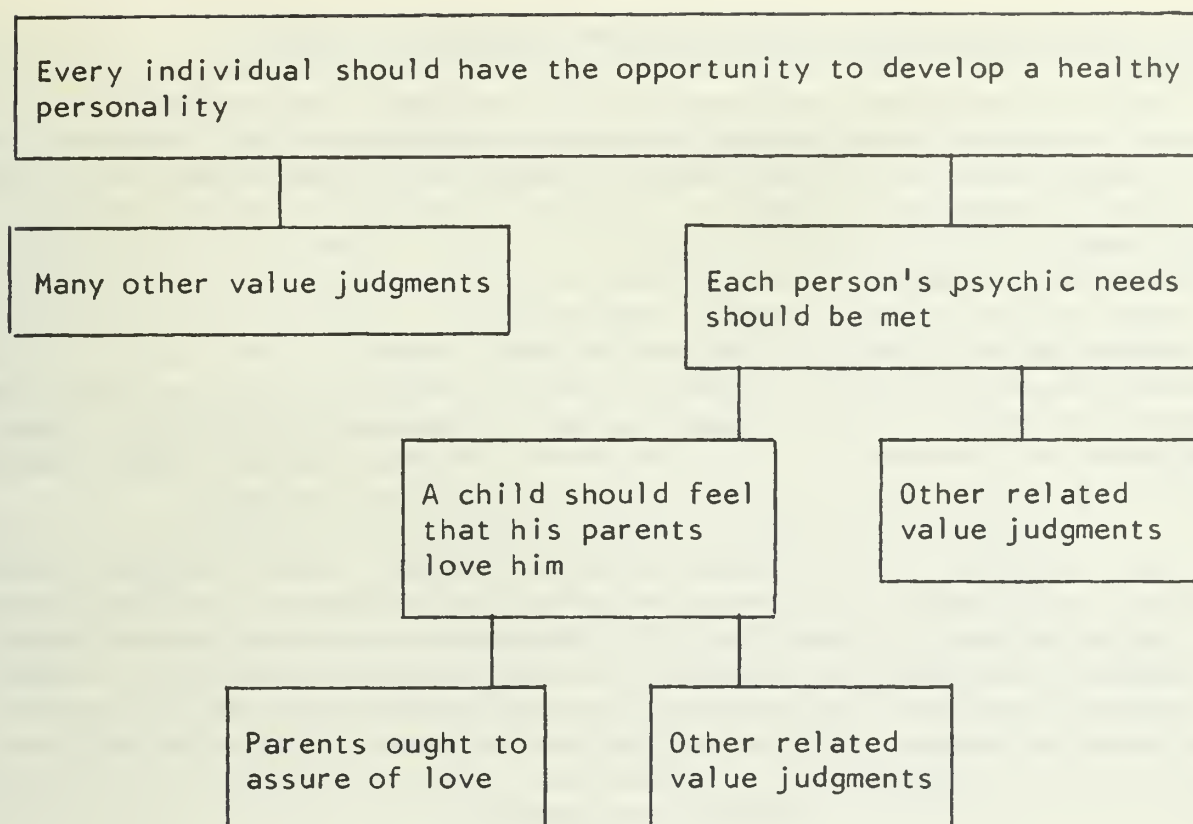
"Write a statement of your position in the argument regarding whether a child should be reared by its own mother and father when the parents are morally and emotionally unsound. Give reasons to support your position."

Discovering that there is a hierarchy of values

During the discussion that followed these written statements, the students discovered that some values were of minor importance while others were of major importance to them. As their various statements of belief were placed on the chalkboard and studied, they perceived also that there were relationships between the value judgments expressed. By using everyone's statements, they managed to arrange those values that were pretty generally accepted into a pyramid with the "welfare of man" as the ultimate value at the top.

This is one form of the desired organized subject matter

To borrow another idea from Dr. Brown, on the next page is one illustration of a hierarchy of values, as reproduced from page 35 in her bulletin. If this illustration of a hierarchy of values were fully developed, it would represent the type of "organized body of subject matter" now considered essential in using values as materials of rational thinking. Perhaps the following suggestion is too heretical to confess to you. But the truth of the matter is that we, as teachers, have found we make best progress if we start far up in any hierarchy of subject matter statements, be they values as we have just been discussing or facts, principles and generalizations as we shall present shortly. Somehow we manage in this way to "see the woods" first and do not so readily get lost "in the trees."



Obviously, students will necessarily start, for example, with a problem situation describing an older child's regressive behavior upon the birth of a younger child, raising the very practical questions of why this change and what can be done about it? Gradually, through a series of such learning experiences, deliberately selected to provide for students' discovery of the value statements listed, the completed hierarchy suggested by Dr. Brown will come to have meaning through many applications.

The validation of value judgments

Dr. Brown further explains that, "if a value judgment is a form of reasoning, we should validate our judgment through the same process we would use in validating judgments based on fact. For example:

"Parents should assure a child of his own place in their love as he is prepared for the coming of a new baby in the family. (A value judgment)

"If you were asked to defend this value judgment, you would probably say something like:

"The child might feel hurt and as if the new baby were taking his parents' love away from him if he were not given such assurance."

Thus you have defended the first, a straight value judgment, with another statement that appears in many texts as a fact derived from studies, yet clearly involves an assumption that it is not good for a child to feel hurt and as if his parents' love has been taken away from him. Basically, then, you are defending one value judgment with another but utilizing all objective information available.

Do we think in situations where emotions are not involved?

You will recall the deplorable results of the three characters in "The Runaway" trying to think through a serious problem when their emotions were so involved. Even for little seventh graders Barclay and Champion in their Teen Guide to Homemaking, page 2, list the following in "As you grow up, you should learn how to . . .

- control your emotions
- make decisions based on good reasoning
- recognize your problems and try to solve them"

You will likewise recall, we hope, the final call to action near the close of the first issue: "If we assume, as our primary responsibility, the development of competence in thinking with feelings maturely subordinated to facts, we shall hold our place in the total school program."

Let's consider, for the sake of moving forward, that you have resolved to try to make exactly that contribution to your students this year. Does that guarantee that, in handling child development problems where little if any emotional weighting is involved for your students, they will think? You are already aware that the answer is "some girls will and some girls won't." Unfortunately, that pattern is part of the dangerous freedom we enjoy.

It's a Free Country

Dear to our hearts is the knowledge that we
Can say what we think without shrinking,
And dearer yet is the fact that we're free
To say what we think without thinking!

--Thomas Usk

Let's play a game with ourselves!

Neither our society nor the school, the educational agency of that society, seem to have placed a high priority upon thinking in the past. Does not that apply to us as well as to our students? For example, think of a lesson you taught this day--neither a Jonah one nor a Red Letter dazzler but one about which you have definitely neutral feelings. Have you done any reflective thinking about this lesson since the students departed?

Your first reaction may be, "Ye Gods, when would I have had the time to think with every period filled?" Granted! But does that not suggest that TIME is going to have to be provided in generous measure in class if your students are going to get adequate practice in the art?

Or you may have said, "What would be the use? I'm on no curriculum committee and I'm sure I don't know anything about these new generalizations!" So clearly an essential of thinking is pertinent, objective INFORMATION.

Some one else may object, "Well, I've certainly got a lot more interesting things to do with my time than to rehash a lesson that wasn't too poor, anyway!" Would you not be interested in getting your students to

retain more of what you're teaching them? Wouldn't you like to have them better able to transfer their learnings to new situations? Well, those are two strong arguments for teaching to the point where students can generalize their learnings. Don't forget that the genuineness and strength of your INTEREST will influence the efficiency and quality of your thinking.

Obviously, the school's task is to develop a favorable attitude and to provide time, content, and interesting experiences in problem solving that will better prepare today's youth to think than did our own education. Needless to say, there will be wide individual differences in the speed of thinking, the content retained, and the ability to think in new situations. But up to his potential capacity, everyone must think if he and his nation are to survive.

What is the relationship of laboratory experiences to thinking?

We teachers who provide laboratory experiences have often been warned, "All learning involves some activity but all doing does not result in learning." This can apply to teaching in academic subjects using laboratories, as well as in the vocational subjects. We all know that students who have difficulty with verbal comprehension may find laboratory experiences interesting and helpful in clarifying ideas. But the ideas must be there, with the tangibles used to demonstrate relationships that words had failed to make clear.

Of all of the groups, instructors of business education seem to be most earnestly trying to get out of their nice, comfortable little ruts. Here are some current titles from their professional journals: "Let's Teach our Office Practice Students to Think--Not Think!", "Teach Decision-Making at the Typewriter," and "A General Clerical Project--From the Chin Up!" "From the Chin Up" refers to a slogan of a University of Michigan professor, J. M. Trytten, who exhorts, "We must not only work with students in business education from the wrists out but also from the chin up!"

Laboratory experiences in child development that involve bringing pre-schoolers into the home economics department have long been recommended by leaders, but have been far from completely accepted by teachers. There is no denying that play groups demand many adjustments and much extra work. What a tragedy, then, if high school students fail to get maximum learning from their experiences! Yet when tests composed of application-of-principles items are administered later, the ability to reason through problems has apparently not been gained. Loads of activity but not much learning!

Class discussions concerning observations of the children usually "sound" rich and rewarding. Dr. Jerome Bruner emphasizes organization as a major key to learning. We are going to have to ask ourselves, Do I have evidence that an organized body of factual knowledge and value judgments was gained to varying degrees by the students? If not, why not? Would fewer experiences with the children and more organization and application result in today's desired growth?

Proliferation of content and objectives

Education is now acknowledged to be a major national enterprise, as necessary to the nation as its armed forces and as essential to the individual as his job. At the same time the amount of knowledge to be taught has increased to such proportions as to stagger the imagination of the ancients. As far as we know, man's capacity to learn has not increased since the last ice age. Yet knowledge has multiplied ten thousand fold.

There are now over 350 different courses offered in high schools. Just think of the simplicities of that 1922 course, largely cooking and sewing, bolstered by related science and art! Today's "Scope and Sequence" suggests five major emphases for Illinois teaching: human relations, management of resources, consumer economics, mental health and physical fitness, as well as applied science principles.

This is a typical amoeba, heading southwest. Five minutes from now it may be north or east-bound. Amoebas, having no goal, are content to spend their lives following the line of least resistance. Students too often seem to resemble amoebas, lacking any definite goals in their studies. Perhaps teachers, too, occasionally may lose sight of their too many goals and feel pushed about by outside pressures.



Efforts at reduction

Obviously, the urgent need today is a reduction in both content and goals. The American Home Economics Association, through the thoughtful work of many members, attempted to indicate minimum essentials in outcomes through the publication, Home Economics: New Directions. For instance, the homemaking skills that formerly dominated the picture were reduced to one out of the twelve competences recommended. Indeed, the shift in emphasis was very pronounced; five of the twelve competences were related to economic well-being of families and persons, and the importance of human relations was apparent in competence after competence. The more recent national and state efforts to get an organized body of subject matter on paper, as described on page 53, is another move in this direction.

Some years ago the Harvard Committee on General Education tried valiantly to reduce the goals of education to the four competences deemed necessary for every person. These, they decided, were the minimum essentials:

- To think effectively
- To communicate thought
- To discriminate among values
- To make relevant decisions

Ever since the publication of this report there has been a general ferment in education, but not until fairly recently did the classroom teacher become aware of it. Today it is unlikely that a single teacher of

home economics anywhere in the fifty states and the provinces of Canada is unaware of the necessity for curriculum revision.

A tale is told of a carefree young grasshopper who asked an ant what to do with winter coming on. The ant suggested that he become a cockroach in a rich man's kitchen. The grasshopper went off gayly--but soon returned and said: "A fine idea but just how do you do it?" "Oh, my dear fellow," was the reply, "I've filled in the broad outlines; you'll have to fill in the details." In the remaining pages of this issue, we are trying to help you a little in thinking through your own revisions in terms of content and teaching methods that will contribute to the four over-all goals of education for every person.

Considerations when a high degree and rate of change must be expected

Instructors in every field, let us assume, will utilize the organized body of subject matter with which they deal to contribute to students' growth in these over-all goals. If they are in touch with modern thinking, they also will give consideration to some thought-provoking suggestions concerning the kind of a person who will be best equipped to cope with tomorrow's world. We have selected a few of these trends that appear to be well documented and have special significance for the field of home economics.

Dr. Margaret Mead, President of the World Federation of Mental Health, has prepared a monthly group discussion article for Parents' Magazine which may be secured free by writing to Parents' Magazine, Group Service Bureau, Box G-74, 52 Vanderbilt Avenue, New York 17, New York. In this article, entitled "Raising Children Who'll Reach the Moon," Dr. Mead has pulled together several trends and stated them in her own provocative style. We believe that the following merit consideration by home economists. "If the shoe fits, put it on."

"Most parents today want their children to be flexible enough to adjust to whatever may happen--but they definitely do not want anything to happen." As a consequence, Dr. Mead perceives that our students are optimistic that anything can somehow be arranged for, bought, made or invented, and have little fear that their present errors and incapacities need limit them in the future. In our own classes we see this bland ignorance of possible suffering and difficulties displayed by the immature girls happily leaving school to get married or other drop-outs unaware that there are few, if any, jobs available to the unskilled.

"Life will become increasingly like a parachute jump--something that has to be done right the first time." Hence, for this highly mechanized world of the future, she pleads that we teachers develop a new respect for precision in our students. We are all too familiar with the present "get-by" attitude. To refuse to accept an incomplete, "sloppy" answer is going to take courage on our part. To get students to identify and expose errors in others' thinking, recognizing the difference between sound evidence and successful persuasion, is going to take persistence. We must keep before us that children are important, and in no aspect of home economics is precision of thinking going to be more important to future parents than in this area of child development.

Dr. Mead points out the need for individual projects in our classrooms by stating: "Certainly a greater capacity for solitariness combined with a capacity to enjoy and get along with other people will increase both our capacity to do original work and our ability to cooperate in international ventures with Europeans and Asians who are more accustomed to working alone than we are." Let's start right now to figure out some good individual projects for our classes in child development!

Dr. Marjorie H. Parker, writing on "Developing Values for a New Era" in Educational Horizons, Vol. L, No. 1, Fall 1961, also strongly emphasizes such independence in creative thinking and feeling, but from a group point of view. She says: "In times past, a great deal of importance has been placed upon the importance of the individual's belonging--his relating to a recognizable group and standing with his group against other groups. This concept of relatedness, I believe, needs modification. Changes in employment patterns, the mobility of our population, and other factors in the new era have altered the groupings even though some of the need for belonging and for identification with groups remains. Now, there seems to be indicated a need for more awareness of the value of self-containment as an individual characteristic. Individuals must have sufficient inner strength and personal development to be secure. They must learn how to derive satisfaction from independent experiences and to accept new relationships with groups whose basis of organization is not kinship nor emotion."

Why are we re-emphasizing this necessity for self-containment, in a reversal of our former cozy ideal of every family life class and family in a home as one big happy group with no isolates? First of all, because it is the most strongly documented trend we have found. Note, if you send for her article, that Dr. Mead is concerned primarily with the cognitive aspect of original thinking while Dr. Parker is writing about the affective aspect of self-containment. Both aspects get involved in the many problems of young parents when rearing children. Moreover, these young parents will not only have to derive for themselves satisfaction in solitariness and self-containment, in varied and swiftly changing groups; they must rear children who can cope with what will probably be even greater extremes in such conditions.

Dr. Parker also reiterates what so many 1962 writers have stated. "We need a new concept of the family which does not apologize for the working mother, . . . for availing itself of child-care services . . . and for finding recreation in community facilities." She urges that we abandon the idea that such conditions exist only in the homes of the underprivileged and indicate inadequacies on the part of the home.

If any one of us has a lurking suspicion that she may be harboring such prejudices, she might find reassurance about these changes from the replies of young mothers to the section of the Illinois Survey entitled "You and Your Young Child" Contrary to often-expressed fears, working mothers apparently were providing adequate care for their young children and utilizing community facilities to the hilt. Moreover, their free responses indicated truly surprising insights. For instance, over and over they stated something like this: "To the extent that safe but responsible

opportunities for exercising independence are provided to children, their growth to maturity will be enhanced." Is it possible that we, as ardent child development specialists, have a tendency to cling to the stereotype of the effect upon her children of a mother's working outside her home?

Perhaps this can illustrate, too, one final trend that seems to be ever on the increase each year. That is that many teachers tend to underestimate persons' capacities, particularly those younger than themselves. Teachers who fail to demand the best from their students these days may be told that they are "absolutely living dolls" and become "suckers" for this popularity gag, but are privately scorned by those same students. Home economists, who are accused by Basic Education Council members as lacking a passion for ideas, are especially vulnerable if they do not upgrade their courses along with those in other fields.

Selected references in child development

All these new trends have to be integrated with the use of such texts and references as you may have available in your school, PTA, and Public Library. We are taking for granted that you have already equipped your department with the several books on general home economics that include short sections on child development, and usually used at the junior high school level. There are also several secondary texts available that specialize in child development or, at least, in that and family life. If you are not quite sure about the completeness of your collection, your own Province or State Guide will provide a listing.

Courses of study also provide long lists of excellent bulletins that can be kept up to date and are usually dependable, although more often written for parents than for high school students. One of the newest publications is a 1962 revision of that perennial favorite of government bulletins, Your Child from One to Six, U. S. Government Printing Office, 20 cents. A rather similar bulletin of excellent quality is entitled Up the Years from One to Six and is available from the Department of Health and Welfare, Ottawa, Canada

We were delighted to discover that the New Mexico Home Economics Curriculum Guide, which we have already mentioned on page 55, included a book about which we are enthusiastic for beginning students but that has not been given much consideration by high school teachers because it was reviewed as a nursery school guide. This book is Louise M. Langford's Guidance of the Young Child, New York, John Wiley & Sons, Inc., 1960, \$6.25. Perhaps you'd also like to know, in passing, that this relatively recent, very complete 326 page New Mexico Home Economics Guide is one of the few such courses that can be purchased and sent outside the state. If you are interested, send \$4.00 to Home Economics Division, State Department of Vocational Education, Box 98, University Park, New Mexico.

A 1961 book, also planned as a text for students in the University Nursery School at UCLA, is delightfully written and illustrated, but, in our opinion, would be entirely inappropriate as a text for beginning high school students in child development. We are referring to The Nursery School:

Adventure in Living and Learning by Helen M. Christianson, Mary M. Rogers, and Blanche A. Ludlum.

Since day-care centers for children are expected to increase greatly in the years ahead, you might like to be alerted to a book soon to be published by Macmillan to aid workers in such centers. The title will be Good Schools for Young Children. Four professors at Florida State University have collaborated on the volume: Ruth Dales, Sara Lou Hammond, Dora Skipper, and Ralph Witherspoon. Ruth Dales' outstanding reputation as a family life specialist leads us to have high expectations for the soundness and practicality of the book, but no copy was available at the time this issue went to press.

With all of the present overwhelming importance being attached to relationships as the essence of reasoning and to organization as an aid to perceiving relationships and retaining and applying information to new situations, the first characteristic to look for in a child development text is the clarity of its outline. Individual student projects of great worth may consist in having students take the responsibility for outlining selected chapters in good texts. Incidentally, if you're interested in increasing student motivation for upgraded subject matter, try having them attempt to outline some popularly written but meagerly informative book! No one will be more righteously indignant than the able student who heretofore has been happily coasting along with that same book!

We have found Langford's Guidance of the Young Child seems to excel in this primary characteristic, hence are using it as a source of our next examples. If you have a copy available, we'd like to suggest that you follow along in this text as you read further. In fact, if you do not have even a single copy, we'd urge you to send for an examination copy.

A hierarchy of ideas based upon levels of abstraction

On page 59 of this issue a hierarchy of values statements was charted, based on levels of importance and worth. Similarly a hierarchy of ideas can be evolved, based on levels of abstraction. Z. P. Dienes, while doing research at Harvard University, developed this description of "abstraction." "The process of abstraction is defined as the process of drawing from a number of different situations something which is common to them all. The degree of abstractness of a concept depends on the variety of experiences from which the attributes have been abstracted." Let's see if we can clarify these rather abstruse statements.

As we confessed on page 58, we teachers often find it easier to begin at the "top" in a hierarchy and work down, the very opposite way from which our students have to learn. So let's start with a definition of a "concept" as recommended by the Office of Education. Concepts are abstractions which are used to organize the world of objects and events into a smaller number of categories. For example, in the field of home economics, one of the eleven "concepts" proposed was "Development of Children and Youth" with that, in turn, broken down into "Growth and Guidance of Children" and "Developmental Tasks of Adolescents."

This "Growth and Guidance of Children" includes many generalizations. In order to achieve the clearcut organization that all texts should have, Mrs. Langford quite logically divided her book into chapters. Let us look at chapter five, pages 77-96, which deals with physical and motor development. In the opening paragraph this sentence appears. "The child's body is of utmost importance since its structure and functions denote the framework in which other kinds of development are encased." It is so broad a statement that it would seem to be a generalization, the level in a hierarchy of ideas just below a concept.

According to the Office of Education, a generalization is a complete thought which expresses an underlying truth, has an element of universality, and indicates relationships.

- * Is the sentence a complete thought? Yes, not only in terms of English expression but also because "cause and effect" are clearly indicated
- * Is there in the statement an underlying truth? Yes, because similar statements can be found in the publications of research workers and other specialists in family life, medicine, physical fitness, mental health, etc., as well as in books on child development
- * Does this statement have an element of universality? Yes, because most of what is known about physical and motor development is related to one or more of the aspects included in the statement:
 - "Structure of the body"
 - "Functions of the body"
 - "Other kinds of development"
- * Does this statement indicate relationships? Yes--two relationships:
 - "Structure and functions of the body" in relation to "various types of development"--a factual relationship
 - "Framework encasing these various types of development" is related to "the utmost importance of the total development of the child"--a value relationship

A word of warning may be in order concerning the term "concept" as it was used in the 1956 Russell "Schema for Thinking" and as it has been accepted by the Office of Education from more recent developments in research. You will recall that in a list of definitions the generic term, "idea" was paralleled with "concept" to avoid confusion, and the scope was made so broad as to cover the simplest possible statement of fact, such as Russell's example of the five-year-old's remark at the market, "I am empty of cantaloupe" to the broad categories now being proposed by the Office of Education.

Lower levels in a hierarchy of ideas

As you know, outlines of subject matter can be broken down into finer and still finer distinctions. This makes inevitable a sort of "hierarchy" within a group of principles and facts. To illustrate this, an outline of some of Mrs. Langford's material in this same chapter five on "Physical and Motor Development" may be used.

I. The child's body is of utmost importance since its structure and functions denote the framework in which other kinds of development are encased

A. Since the child's physical self is more easily observed than other characteristics, it deserves special and painstaking attention (Combination of factual and value)

Physical characteristics to the number of fourteen are listed in the form of an observation sheet to be applied to two children who appear very different (Factual except that subjectivity enters into answering such questions as "Is the child's skin clear, smooth, pink, rough, or pale?")

B. Physical development, as in other types of growth, is continuous, follows a pattern, is not uniform (Factual)

1. Although averages of physical size as shown in simple height and weight tables do not provide good bases for the evaluation of individual growth patterns, they clearly illustrate that continuity can be expected and that there is an orderly pattern to physical growth (Factual)
2. A doctor's knowledge of each child's level of skeletal maturation indicates how far he has proceeded toward maturity in height, bone formation, and body proportions (Factual)
3. Even when it seems that children are showing signs of good physical growth, periodic physical examinations should be planned (Combination of factual and value)
 - a. Although weight is important as an index to health, the quality of growth is the vital factor (Factual with inference on value)
 - 1) Increase in weight does not always mean healthy growth (Factual)
 - 2) A fat child is not necessarily a healthy child (Factual)

You will observe that, for purposes of illustration, the materials in this outline have been somewhat simplified from the exact words of the book. That accounts for the lack of quotation marks.

The statement labeled Roman numeral I has met the characteristics recommended for a generalization. The level just below a generalization in abstraction is, for tentative use in this article, called a "principle." Since official pronouncements concerning the title to be given to this level are unavailable, the term "principle" is offered for current usefulness in thinking through organized bodies of subject matter.

We may define a principle as a complete statement that embodies the common elements in a group of related facts and indicates relationships between two or more things. Principle A embodies in the term "physical self" the fourteen physical characteristics included in the observation

sheet. It also indicates a relationship between painstaking attention and the fourteen observations of the child's body. Clearly both the statement of Principle A and the observation questions combine the factual with value, as expressed in "deserve" and the subjectivity inevitable in answering the observation questions. This subjectivity is emphasized when one knows that in research, observers of such physical conditions are given thorough training and practice until a reasonable degree of objective accuracy has been attained in the observing.

Principle B embodies the elements found in the supporting facts labeled 1, 2, and 3. Fact 1 deals with the continuity and pattern mentioned in Principle B. Fact 2 reaffirms the lack of uniformity on a level of professional knowledge rather than the common height-weight tables. Fact 3, in complete consistency with the value inferred from Principle A, recommends periodic professional examinations on all three aspects of physical development. Principle B also indicates a relationship between these characteristics of physical development and the same characteristics in other types of development. Of course, a principle is also assumed to be true if the facts supporting it are true.

Facts are recognized by those writing on "thinking" today to be at two or even more than two levels. The level just below that of a principle may be defined as a complete statement that is true so far as is now known and gains meaning through indicating a relationship between two things, thereby entailing a minimum of interpretation. Facts at a lower level are simple statements that meet only the first half of requirements proposed for a higher level fact. The last two statements in the outline quite clearly are facts at the lower level of abstraction. Moreover, they are stated negatively while the positive form is considered to be preferable because it is constructive in character.

Nevertheless, such simple statements are essential to learning. They supply a mental background of description, definition, identification or classification. From this background the learner is able to perceive relationships, and so raise the level of his thinking. Nor is the negative type of statement always to be frowned upon; "a fat child is not necessarily a healthy child" may startle a person who believes otherwise and help to dislodge the misconception held.

Principles or facts?

The dilemma an outline frequently imposes now becomes clear, we hope. Just where do principles stop in the hierarchy and facts begin? Simple statements with no indication of relationships are easily identified. Generalizations are so broad that they, too, are readily evident. If you will examine the statements between these two extremes in the outline of Mrs. Langford's material, you will find it difficult to draw a dividing line. We, at least, do.

But does the label matter? Dr. Pattison, in her historic informational outline on nutrition, the first complete and printed attempt along this line as far as we know, entitles the chapter "Facts and Generalizations" and

avoids the use of any other distinctions. Some State Curriculum Committees are calling all statements "generalizations," although they range from simple to complex in the interpretation required. Ultimately this label may prove confusing, but it has the merit of emphasizing the need for generalized statements as student outcomes. In the next issue you will note that the authors chose to call their informational outline "Statements of Content." Perhaps that is a good solution so long as relationships are sharply defined through the outline form.

To recapitulate, the essentials for teachers to keep in mind when they are trying to get together the organized body of subject matter demanded by the goals of modern education may be summarized as follows.

- * Subject matter in home economics is composed of value-judgment statements, factual statements, or a combination of the two
- * All of these statements should be supported by research, statements of specialists in the area, and/or careful objective reports of individual or group observations
- * Statements should be arranged in a logical outline to facilitate organization in the minds of both teacher and students
- * Because relationships are essential in the thinking process, they should be made clear
 - Between ideas within a single statement
 - Between statements within an outline of subject matter
- * Because students differ, learning outcomes will differ but every student needs to achieve some level of a generalized statement
 - To learn to perceive relationships as the first step toward thinking
 - To reduce the number of isolated facts that are unlikely to be retained
 - To facilitate understanding and transfer to use in new situations

Correlational Thinking is Necessary Today

Long before Sputnik Dr. B. O. Smith of the University of Illinois gave a talk at a general program of the home economics section of the American Vocational Association's annual meeting in Chicago. The title of his paper was "Education for Interdependent Living." Listeners considered his presentation profound but found that they had to take a copy of the speech for further study--and still found it rather beyond their understanding in its practical implications.

Today their difficulties are readily understandable. Dr. Smith himself has been engaged in basic research on this concept of correlational thinking ever since his presentation. So have great numbers of other researchers in various institutions. But, though researchers are very far from "having the answers" in terms of practical implications, the urgency of our national

situation has made earnest efforts in this direction a MUST for all teachers in all schools.

Excerpts from Dr. Smith's presentation that today seem understandable

The dictionary defines "correlation" as the mutual relation of two or more things." Indeed, the idea of relationships was the central theme of Dr. Smith's address. It is also, you will realize, the keynote word in our trying to help students develop the ability to think.

Dr. Smith first developed a historical perspective on the changes in society that over the years had made interdependent living our American "way of life." He then moves on to the problems of the present. The following quotations now have an amazingly clear message, but they didn't a few years ago!

"How are the parts of this diversified, yet mechanically interdependent society, to be related together by the individual so that he can understand what is going on and thereby act intelligently? We can say in the first place that our common sense knowledge will not help us much in relating the parts of our specialized world. It is precisely this knowledge that has been rendered ineffective, if not irrelevant, by the growth of social interdependence and the resultant obscuring of the outcomes of our acts. To rely upon our conventional knowledge assumes that what we knew in the old-fashioned community is valid in the new conditions of specialization and mechanical integration. This assumption is false. Our old notion about such things as child rearing, home care and management, economic behavior, and political and social behavior simply do not hold. When we follow them, we end in disappointment. A housewife who takes part in a local effort to reduce prices by refusing to buy certain products is doomed to disappointment. This would have worked in a self-contained community, but it will not work in a highly interdependent system."

"We can say in the second place that knowledge acquired from dealing with the practical problems of daily life on their own terms will not suffice. This would mean that such problems were handled in terms of immediate conditions and consequences. A theory of pedagogical method has been erected on the assumption that the individual can master not only the content but also effective ways of thinking by dealing with practical problems arising in the school and community. I believe this answer is too simple. It overlooks the fact that the problems of an interdependent society, however practical, cannot be divorced from conditions and consequences that are remote in time and space. For this reason no amount of experience in dealing with practical problems on their own terms will enable us to see the connections which they have with things in the broader context of society. A parent who attempts to deal with his child in the home without giving attention to the ties which the child has outside, will never understand either the problem or the failure that will overtake him. So it is with all other problems that involve more than an immediate context."

"The educational program must stress correlational thinking if we are to learn how to deal with problems in an interdependent society. Then two kinds of requirements are made of every individual: First, that he learn to think in correlational ways; that is to say, that he learns to hold one set of factors in mind, say economic ones, while he searches for the relation of these factors to family concerns, to political affairs, and so on. Only as one can grasp the web of connections which a particular decision may involve can his thinking have any possibility of avoiding serious error. This leads to the second thing; namely, that the individual must be disciplined in handling the connections which widely dissimilar events or things may have with other events or things."

"It is the development of new knowledge from a systematic study of the problems overlapping two or more fields that is called for. We must have subjects which use systematically the theoretical content of different compartments of knowledge in the investigation of problems which go beyond a specialized subject. From the study of such comprehensive fields the individual would acquire knowledge enabling him to relate different spheres of social action--knowledge which will enable the individual once more to root himself firmly in society and to find again solid ground for rational living. Home economics may well be a development in that direction."

"The individual must also be thoroughly trained in the principles of straight thinking. An interdependent society is one which exposes the individual to all sorts of conflicting opinions and proposed courses of action. When the division of labor necessary to mass production throws people into special activities, ideas get specialized too. In this way a whole set of ideas and attitudes will cluster around one kind of activity or enterprise, say running a business, which will differ in many ways from the set of ideas and attitudes growing up around the activity of running a home or working in a factory. In any matter of public concern especially, the individual will thus be bombarded by competing views and arguments representing sets of ideas and attitudes from different occupations or activities. Each competing view will try to shape his thoughts and actions to its purpose. He must listen to contending sides but he must also have some way of judging among the various views and arguments. Otherwise the individual will profit little from his listening. Indeed he may wind up confused and incapable of action, or else, he may act rashly upon an ill-considered decision."

"Some people have assumed that experience in problem solving will teach a person to think effectively. Others have thought that mastery of the specialized subjects produces straight thinking. But neither of these views is correct. Both schools of thought assume that thinking can be improved without giving explicit attention to the problems of thinking as such. Thinking, like reading, swimming, and written expression, is an operation in its own right and must be studied if it is to be improved. No amount of study in a specialized field will result in the mastery of the principles and methods of straight thinking unless explicit and prolonged attention is given to the problems of thinking as these problems occur within any field. Thus the problems of thinking become objects of study in themselves within any subject matter field where they arise.

Likewise, no amount of practice in problem solving will improve one's thinking unless he studies the principles of thinking which serve as the standards for accurate thought. The individual must become aware of his mistakes in thinking, learn why the mistakes are mistakes, and understand the rules by which he can discover his mistakes and correct them. Otherwise he will make little improvement in his thinking and will fail to transfer whatever improvement may occur."

"To sum the matter up, I shall restate three proposals. These proposals concern the training of the teacher in all fields, including the field of home economics. These proposals apply with equal force to the educational program needed in the public schools. In order to prepare our young people to live in an interdependent society, we must first find some way of grounding them in a common body of knowledge by which they can construct an adequate picture of society for themselves; secondly, we must discipline them in the habits of correlational thinking by which they can maintain their balance in a society that is changing all about them; and, finally, we must discipline them to go by those processes of thinking which liberate the human mind by reducing its errors to a minimum."

Other specialists now support these views

Dr. Jerome Bruner is another prominent researcher in the processes of learning and thinking at Harvard University. He points out the cheering thought that, "while knowledge is increasing in amount, at the same time the degree to which it is structured is also increasing. The only way in which individual knowledge can keep pace is through a grasp of the relatedness of knowledge."

For example, you will recall that in the sample outline from Guidance of the Young Child one statement pointed out the relatedness of the characteristics of all forms of development in children. The statement was: "Physical development, as in other types of growth, is continuous, follows a pattern, but is not uniform." If a lesson on a child development problem leaves the average and below average learners with a scattering of simple statements, they are unlikely to ever be able to do their own "structuring" or organizing, hence are also unlikely to retain and transfer these facts to use in new situations, no matter how clearly they may have observed an application in class. Some of the brighter students may do their own organizing and perceiving of relationships; others may not. At least one determining factor in whether or not adult students will independently carry through the remaining steps of their own learning seems to be their genuine interest due to an opportunity to almost immediately put the learning to use. Even adults of very limited intelligence can "figure out for themselves" that continuity, a regular pattern, but not a uniform rate will show up in their children's physical, social, emotional, and mental growth, due to this element of interest in immediate use.

But why should any students be expected to carry through their own correlational thinking? Unless practice is given in class, many of them for one reason or another will never learn the technique or "discipline"

as Dr. Smith calls it. Teachers, of course, will have to first search out cross bearings between aspects. This represents self-discipline at its most rigorous for text writers have not always pointed up relationships as clearly as did Mrs. Langford in our example. After the teacher has achieved the relationship, she has to next guide her students to a similar achievement. Remember, a logical outline of subject matter will be of great help to them.

Not long ago a young parent in an adult class exclaimed in disgust at herself, "Now why on earth should I find this pulling together of related facts into a general statement so hard to do? Every day I've watched my pre-schoolers do correlational thinking!" As an example, she told the story of her little girl, standing on the bathroom scales and saying with deep puzzlement to her smaller brother, "Funny! I don't feel anything! But when Mommy gets on these, it always makes her mad!" She had observed a relationship of which even her mother was unconscious!

There is need for content statements on paper

Curiosity in children and in great thinkers is the same thing, and probably the most important factor in thinking of any kind! When the little girl perceived a relationship between standing on scales and her mother's temper, she asked, "Why? What would happen if . . .?" and immediately experimented to secure "verified data."

Compared to such spontaneous learning, an organized body of subject matter inevitably appears dull and pedestrian. But, if we are to add the new dimension of a PROCESS (thinking) to our education, along with the PRODUCT of home economics content, reduced time for attaining the product will force upon us a high degree of selectivity. Casual decisions, such as, "Oh, we thought we might make just one more garment; the students are so interested!" are out. Those "good old days" are gone and unlikely to ever return.

One speaker predicted that a teacher who is accustomed to such a relaxed attitude of freedom in curriculum building would, at least at first, tend to make two serious errors. First of all, in trying to organize content, she would be strongly biased in favor of overinclusion and over-generalization, not realizing that in order for a generalization to have meaning, it must be based upon an adequate number and variety of experiences. Secondly, she almost certainly equates thinking with learning. These are not identical processes. Thinking, that will operate satisfactorily in the unknowns of our students' future, is a central purpose of education in its own right and requires time hitherto devoted to such luxuries as that "Just one more garment."

Tests of soundness of content statements

All over Illinois, as in many other states, home economics teachers are attempting to collect statements of content by meeting together in small groups. In this first preliminary step no effort is being made to organize these or to determine their level in a selected body of subject

matter. These decisions will follow later in order to facilitate correlational thinking. The following standards in the form of questions are being applied to proposed statements.

- * Is the evidence supporting the statement adequate?
- * Are the assumptions implied in this statement recognizable and true?
- * Does the statement have general applicability to similar situations?
- * Is sufficient caution embodied in the statement?
- * Is the statement likely to remain true for some time?
- * Does the statement relate to one or more of the five major emphases listed in Illinois' "Scope and Sequence in Home Economics"?

Criteria for choice making from collected statements

Obviously, a curriculum builder needs to examine all the reasonable possibilities before deciding what statements are MUSTS from the educational point of view. For instance, Dr. Pattison ultimately evolved eighteen major statements under which she placed the minimum essentials in facts and principles to be taught in nutrition. No one has yet, so far as we know, done such a tremendous and necessary organization for the area of child development.

We might get some idea of what such an undertaking involves by raising a few questions that would be pertinent to chapter five in Guidance of the Young Child since we have been using it as a sample reference. Actually, of course, all the reputable publications in the area of child development would have to be thoroughly searched for identification, comparison, and choices of statements. Here are some typical questions that might arise when examining chapter five.

- * Should one of the major statements ultimately selected include points under physical growth and development only or should locomotor and manipulative skill development be included, as Mrs. Langford has combined them in chapter five?
- * Should statements be quoted directly from a publication or should they be rearranged so that at every level they clearly indicate relationships?
- * Should the simple facts which support higher level facts and principles be grouped and inserted in their proper place in the outline or should they be left for the classroom teacher using the organized body of subject matter to locate?

These few "sample" questions indicate what a big job lies ahead, and how important cooperative efforts will be in establishing minimum essentials in content statements. On the other hand, think of the support and satisfaction

a busy classroom teacher of the future will experience when she can check on such an organization of statements to make sure that she is justified in devoting class time to the statements she had considered teaching. To be sure, she will be free to add others if time permits. But she will know that the basic contributions expected from her unit on child development are being met.

A specialist's suggested criteria for the selection of content statements

Dr. Paul L. Dressels, Office of Institutional Research, Michigan State University, is a noted specialist in curriculum and evaluation who has long been committed to the present philosophy of dual outcomes from teaching: (1) essential content mastered in as great depth as students' abilities permit and (2) the development in every student of his maximum potential for thinking.

He has proposed the following criteria for selection of upper level statements. Quite naturally, he has labeled this list "tentative." In fact, the necessity for suspended judgment in an era of rapid change is so great that most of our statements in this article should bear the same label!

* True in so far as is now known

With the expansion of research in many fields related to home economics, the theory about thumbsucking that a teacher learned in college or the subject matter in an older text may be different from present knowledge

* An important central key in the organized content of home economics

A range of ideas should be able to be related to a statement for economy's sake, such as a generalized statement about immunization for children; since a mother is advised to follow the schedule recommended by her doctor, every fact she may learn will cue into this generalized statement but the statement itself will be the central key to her thinking, feeling, and action.

* Transmittable through planned educational experience

One of the basic learnings in the New Mexico ninth grade unit is "Having an interest in children is necessary to understand and guide them intelligently;" so stable are attitudinal patterns inclined to be that this may not be transmittable unless adequate experience with real children is possible

* Based on or related to research

In the problems of daily life, there are large areas where evidence is incomplete but even value statements should be supported by objective, dependable evidence in so far as is possible; back of "Character is fostered by courageously facing within the family and making parental commitments clear on the issue of

confused standards, whether personal or interpersonal" is an extensive study of nursery school children of the 1920's followed up by Dr. Dale Harris of the University of Minnesota

Interrelates facts, principles and generalizations

Safety for small children in the home is usually treated in texts as a mass of apparently unrelated warnings; a few unifying general statements would integrate the necessary facts, principles and generalizations

Frequently useful in making decisions

Since discipline is ever-present where there are small children, the general statement, "The best test of the efficacy of a given punishment is whether it accomplishes what you intended it to without having any harmful effects" should meet many types of situations

Significant enough to influence behavior if accepted

The statement from Guidance of the Young Child quoted earlier, "Although weight is important as an index to health, the quality of growth is the vital factor," if accepted, would help adults in charge of young children to refrain from pressing unnecessary food upon them or worrying because they seemed to eat so little

Stimulates search for meaning and encourages further investigation

The general statement, "Due to many causes, children who excel in some kinds of motor activities may be comparatively inept in others," opens a wide range of possibilities in searching for these causes in individual children--personality factors, physical factors, mental factors

Problem Solving Designed to Develop Ability to Think

Teacher of home economics have long prided themselves upon doing "practical" problem solving in their classes. This may be one reason for classroom instructors being so slow to include the "theoretical" aspects of our field. Dr. Burton contends that young nations are antitheory, but has hopes that the end of this period is in sight. He suggests that the average schoolworker, as well as those outside the school, has his own private meanings for "theoretical," as he uses the word. "He means one of the following or similar statements:

1. The idea or practice is one I never heard of!
2. The idea or practice is one I cannot understand and cannot explain.
3. The practice is one I am unable to carry out.
4. The idea or practice is different from those I use and, if taken seriously, would disturb the routines I now use.

5. The idea or practice is one which I do not intend to exert myself to understand and use."

Either practical or theoretical (in its true meaning) problems can be utilized in making students "stop and think." Dr. Burton describes in the following everyday terms what one does when he has to "stop and think."

"First, he runs into something which raises a doubt or perplexity in his mind. He does not know the answer and will have to figure it out.

"Second, he makes sure what the difficulty is and notes the conditions surrounding the situation.

"Third, he examines the given facts, sets up hypotheses, and searches for more facts both through observation and through similar situations.

"Fourth, he looks critically at the facts and their interpretations. This necessitates setting up or using known criteria.

"Fifth, he draws conclusions which seem to be supported by his inquiry.

"Last, he checks against reality."

Dr. Burton carefully points out: "Throughout, he tries to maintain suspended judgment. The division into first, second, third and other phases is arbitrary for descriptive purposes only. Thinking is unitary and all phases go on together."

Recognized goals for dual outcomes are imperative

In a given situation a specific teacher will set up two types of goals for a child development lesson. For the one on content she will examine the still-to-be determined content statements considered to be minimum essentials. Until that happy day, she will do the best she can with the help she has received from national and state formulations so far as these have been developed. For the goal on helping her students improve their ability to think she will review their present state of progress and decide in particular what specific improvements might well be practiced in the lesson. Indidentally, the word "lesson" no longer implies a class period. Indeed, several class periods might be necessary for attainment of the goals sought.

An integral part of this process of goal setting is the identification and formulation of an appropriate problem. This decision by the teacher is a far cry from the extremes of Progressive Education, and sometimes indicates a real loss to the students that teacher-pupil planning afforded. But few educators today are advocating teacher-pupil planning, a very recent reversal but one forced upon education by the urgency for developing thinking--and perhaps, to be honest, by the miserably poor results achieved by teachers who interpreted "teacher-pupil planning" as freeing teachers from any pre-planning or responsibility!

Over and over again, Dr. Burton mentions the necessity for "genius" on the part of a teacher. Surely this is one place where wisdom is most demanded--to select a problem that will lead students to arrive at and

understand the pre-determined content, and at the same time provide for the desired practice in thinking, is a real challenge to any teacher.

"But," you may be asking, "is she to ignore the students in setting up her goals and selecting her problem?" Not at all! Dr. Burton states: "The problem must be understandable to the learner, hence susceptible to intelligent attack, and must motivate him to want to solve it." In the present attitude toward "motivation," students are not necessarily expected to be "naturally" interested in a problem, however. Instead, if the goals are essential for student attainment, teachers are held responsible for interesting the students in this learning. In some classes this is where the teacher earns her high salary the hardest way! One interesting observation being made by teachers in forward-looking schools, where academic classes are already gradually establishing scholarly discipline in their students, is the carry-over of this acceptance to home economics classes. Even average students are realizing that, after school days are over, "life is real, life is earnest."

The modern teacher, then, asks herself: "Is this problem simple enough to be grasped with good teaching and complex enough to be interesting?" This change of attitude is probably due, at least in part, to Dr. Jerome Bruner's widely quoted challenge: "Any subject can be taught effectively in some intellectually honest way to any child at any stage of development." Moreover, teachers are amazed at the way individuals' delight in recognized intellectual growth helps them to solve their personal and social problems. Even though the intellectual growth may, to observers, seem to be at a pretty low level and slow pace!

In the field of child development no one advocates experimentation on the live child except under the best of controlled conditions. Consequently, students have to have recourse to a case-study problem as the next best alternative. Later contacts with real children will be safe for the children and most rewarding for the students if conditions for learning are what they should be.

Because of the individuality of human beings, a case-study approach is necessary to discover the more subjective elements involving human relationships which are related to success or failure in solving the problem. Since child development is usually taught to younger adolescents than the seniors for whom "The Runaway" was chosen, case studies are proportionately shorter, less demanding, and more sharply focused. References are filled with descriptions of appropriate situations, and contacts with homes in which there are small children offer a never-ending supply. The trick is to match up the situation to the dual goals already set up, so an ample supply is invaluable.

Outcomes sought through thoughtful solving of selected problems

Abilities sought as outcomes from consistent practice in problem solving ultimately should add up to the following. Work on attaining these should be begun in the first home economics class attended and continued throughout formal education of every individual. Growth should be apparent to both students and teacher--the strongest possible motivation.

- * Identifying a problem and stating it in one's own words
- * Recognizing the main parts or issues involved in the problem
- * Defining accurately and understanding meanings of unfamiliar words and phrases
- * Determining the assumptions underlying the problem and their possible implications
- * Formulating possible solutions to the problem (hypotheses) by recalling selectively from past experiences and formal organized learnings
- * Collecting pertinent available facts related to the problem
 - Organizing facts collected so that components appear in a clear outline
 - Recognizing gaps in the information already at hand
 - Discovering additional facts needed for adequate consideration
 - Suspending judgment until a reasonable amount of information has been collected
- * Evaluating data collected by distinguishing
 - True from false statements
 - Fact from opinion
 - Relevant from non-relevant information
 - Verified from unverified data
 - Radically new from impossible ideas
 - Description or illustration from an explanation
 - Ignoring or overvaluing exceptions
- * Identifying and correcting errors in student thinking

Black-and-white thinking	Misconception
Cliche	Prejudice
Contagious thinking	Propaganda
Emotional bias	Rationalization
False analogy	Self-interest thinking
False authority	Stereotype thinking
Generalizing from too few cases	Unverified assumption
Irrelevant thinking	Wishful thinking
- * Utilizing effective processes of thinking
 - Keeping to the point
 - Recognizing oversimplification
 - Thinking sequentially
 - Achieving consistency in facts and feelings
- * Recognizing relationships of many different types, such as
 - Cause-and-effect relationships
 - Choices-and-consequences
- * Reasoning from recognized relationships
 - Induction--from particular to general
 - Deduction--from general to particular

- * Examining all accepted facts critically in terms of a solution to the problem
- * Drawing tentative conclusions in form of
 - At least one feasible solution to the problem
 - One or more generalized statements learned through working on the problem
- * Applying generalized statement(s) to other situations,
 - For testing the generality of the statement
 - For reinforcement of the learning

Unless one realizes that the outcomes listed are to be ultimately achieved, any teacher might view them with dismay! But unless the picture is seen clearly and as a whole, opportunities for introducing procedures, practicing, then dropping as achieved at least at a safety-minimum level, will inevitably be missed. Some of the minds with which a teacher may deal may have to accept their limitations at this safety-minimum level for all of the outcomes. Others will achieve higher levels almost effortlessly and go on to abstract reasoning in mathematics and science.

A comparison of two procedures in problem solving

Problem solving as it often is:

Problem is recognized by students but no time is taken to identify the main parts or issues, to define unfamiliar words or phrases, nor to try to put the problem in their own words

From previous experience and knowledge, one or more solutions are quickly proposed. In fact, some problem solving discussions end right here because problem was not of sufficient difficulty

Students are urged to examine home economics texts available or pertinent "things" for illustrations to prove they are right

When these are reported orally, ideas are accepted after a rather superficial discussion. No need for further data is recognized

Problem solving as it should be:

Central issues are identified so that main problem with its sub-problems may be stated in their own words. Important words and phrases are defined in the way they are to be used

Students examine the assumptions that underly the problem, and consider their implications for a good solution. On this common basis of understanding solutions are proposed, questions are raised as informed guesses

Students collect relevant data from a variety of sources--books and bulletins, evidence from experiments, authoritative opinions of people

Data are recorded on the chalkboard. Gaps in information are filled, sound data sought to replace unacceptable. Rearrangement develops a clear organization, relationships between ideas become clear, and statements are evaluated in a group discussion

Problem solving as it often is:

A specific solution is arrived at in light of present family or local community conditions and based on whatever information has come to hand easily

Reaching this specific solution is usually considered adequate treatment of the problem solving procedure

Throughout this form of problem solving the emphasis is upon the PRODUCT--the specific solution reached

Problem solving as it should be:

To go beyond a solution to this one problem, related facts that have been accepted are summarized in general statements, then tested by being applied to the problem studied

General statements are further interpreted and applied to new situations, first for testing them to insure their general worth for guiding the most appropriate decision or action to be taken in the future, then for reinforcement to assure retention

Throughout this recommended form of problem solving the emphasis is upon the PROCESS by which conclusions are reached that will serve well in many situations

The final step is the most important of all!

Students have been conditioned to the idea that they go to school to learn, and they accept subject matter as an expected part of that learning. They do not, however, recognize the need for summarizing, testing, and reinforcing the processes of thinking which they have just experienced. At first, teachers experimenting with the dual goals of content and thinking, did not realize this need either. But when progress in the thinking skills was appallingly slow, they decided to do for one goal what they had already been doing to attain the retention of content. A careful review of the sequence of their processes in thinking made a surprising difference in the rate of progress.

If all this sounds like trying to keep two glass balls tumbling in the air simultaneously, the first few times you try the dual goals and all these recommended procedures, including the two summaries, you may decide you are right. Strange to say, some of the students may find the innovations easier to handle than do teachers. We are all creatures of habit, and our habit formation is of longer duration than theirs! Students can be encouraged to practice in life outside of school, too, for there they are likely to encounter propaganda, prejudice, and some of the other errors in thinking that do not seem to occur very often in the more rarefied atmosphere of the schoolroom.

One instructor felt she must not have been successful in explaining a "false analogy" since it seemed this error never turned up in class discussions. Then one day a girl appeared with an example from a local joke column. It ran thus.

"Mommy," asked the child, "why doesn't daddy have hair on his head?"

"Daddy thinks a great deal, dear."

"Why do you have so much hair on your head, Mommy?"

"Shut up and eat your breakfast!"

Immediately a flood of other jokes, cartoons, etc., started to appear, and were duly placed on the bulletin board with an over-all caption, DO YOU KNOW YOUR ERRORS?

Some Descriptions of Child Development Lessons

In this section we are going to take one lesson through all its details, pointing out where selected recommendations have been utilized, with some additional explanations where they seem needed. We have deliberately selected lessons for junior high school students, partly because the largest numbers of students are now enrolled in these years. Frankly, we also have found a fast-moving, dynamic lesson at anything but a simple level just impossible to make clear on paper. Even though Dr. Burton warned us of the fluid, confusing "thought-in-process," we had no conception of the dramatic speed with which a good lesson moves in senior high school classes! When transcriptions are made, as all researchers have funds for making, reading the actual discussions, as one student hitchhikes on another's suggestion, some other student bursts out unexpectedly with a sudden insight, some good thinking is stimulated by serious arguing, can be an exciting experience. But alas, not very illuminating in and of itself!

The problem posed by Johnnie

Johnnie, age three, was playing in his front yard with Don. Don's mother called him home. Soon Johnnie ran across the street to play with Don. When Johnnie's mother went after him, she spanked him and said he would have to go to bed without any supper.

Problem identified and stated

Main problem: How can a three year-old be taught to not cross the street alone?

Sub-problems: Why do children want to run across a street?
What can we expect of a three year-old?
What is the purpose of discipline?
How can discipline be taught?

Central issues explored

These were thought to be: Reasons for Johnnie running across the street
Possible physical dangers to Johnnie
Need of children for learning obedience

Assumptions underlying the problem identified

Danger of crossing the street had been explained to Johnnie
Street was a busy thoroughfare

Pertinent characteristics of three year-olds have been established by research

Defining "discipline"--a matter of learning how to behave

Resources are used

Read: Your Child from One to Six, pages 28-47 or Up the Years from One to Six

Read: Goodspeed, Mason and Wood. Child Care and Guidance. Chicago: J. B. Lippincott, 1953, pages 216-218

Interview a nursery school teacher to learn how children in a group are disciplined

Ask some mothers of three year-olds how they discipline their children

Information collected is recorded on the chalkboard

What to expect of three year-olds

They misbehave because

They want to be independent

They are curious and must know why

They may be angry or frustrated

They may be bored or over-restricted

They are interested in people

They try to be friendly

They imitate parents and take part in family activities

They can entertain themselves for a long while

Their conscience begins to develop

They begin to know fairly well what parents do and don't approve

They often respond to verbal guidance although they may pay no attention to what they are told

They enjoy using their large muscles in arms, legs, body--
lifting, loading, pushing, pulling, sliding, and climbing

They have a vivid imagination and begin to develop fears

How do we teach discipline?

How and what we teach depends on

Child's age

Child's temperament

The total situation--one child or several, the family group, etc.

Children learn by experience

They must be given opportunities to express themselves in acceptable ways

They learn readily when they think they can succeed

They are apt to do well when they are busy and are challenged

Experience must be limited if things have long-range consequences which children can't foresee

They must be taught not to infringe on the rights of others

They must be protected from their own impulses

They must be protected from physical harm

Responsibilities for obedience expected of children should be tailored to individual age and interests

Constructive discipline is desirable whenever possible

Parents should be consistent in meeting problems

Evaluating data collected from all sources

- * Students who explored other references discovered that there was a discrepancy between statements about three year-olds degree of conforming. They decided the child normally wanted to be independent but had developed enough self-control to go along with parental limits more than he did earlier
- * One mother offered her conviction that, if a child has enough toys in his own yard, he'll never run away; they decided this was an opinion, not an established fact, hence not to be relied upon
- * Another mother did not believe in spanking under any conditions; they decided that, according to the authorities, reasonably light physical punishment given immediately at the time of the misbehavior did far less harm than the rejection recommended by this parent, hence hers was a false statement
- * The nursery school teacher seriously questioned sending Johnnie to bed without his supper because it would disturb the physical regimen that every parent tries to establish; instead she recommended isolation until Johnnie had calmed down and his mother was over her fright, then a quiet talk on why he must not cross the street alone. The students accepted this as a reasonable explanation

Identifying and correcting errors in thinking during the discussion

- * One mother's proud boast that "My child never misbehaves" was unanimously identified as wishful thinking
- * "But the little boy who lives next door to us is always naughty" was looked upon as emotional bias or prejudice; in fact, students were impressed at the large number of mothers who responded defensively and emotionally and vowed that they would never "get that way"
- * A heated argument arose when one student blamed Johnnie's mother for not being in the yard when Don left so that she could have prevented his going. She declared her mother was ever on the alert to guide her three year-old, accidents had been avoided, and that was what all mothers should do. The students pointed out the utter impossibility of watching a lively child every minute, especially when so many mothers

are working outside the home, so rejected this girl's thinking as generalizing on too few cases

- * One of the strongest proponents for a child's freedom from constant surveillance turned out to be doing some self-interest thinking when she unconsciously contributed, "Why, if I did that with the Smith children on Saturdays when I baby-sit with them all afternoon, I'd never get my studying done for Monday!"

Tentative conclusions reached in light of pertinent facts accumulated

- * The solution for the problem accepted by the class on the basis of what they knew of the situation and authoritative statements collected was the same as the mother had used, except they accepted the nursery school teacher's suggestion rather than making Johnnie go to bed without any supper. They debated having the yard fenced in with a gate that neither Don nor Johnnie could manipulate, but decided that this would be costly and probably prohibited in housing developments where so many small children live. Moreover, such an arrangement might prevent but would not teach Johnnie self-control
- * After examining the materials on the chalkboard, they tried to eliminate the points that were not pertinent to the problem. Next they studied relationships in an effort to reorganize, condense, and formulate general statements that would indicate relationships within themselves, thereby increasing their potential retention and transfer. They came out with the following statements:

A child's attitudes and actions are affected by parental attitudes expressed through rules imposed at home

Teaching a child the reasons for a parental rule will help him to develop intelligent obedience

Explaining reasons for the child's behavior enables the child to relate cause and effect and to gradually learn to do similar reasoning for himself

A child feels more secure and cared for if he knows there are limits put on his behavior

Whatever restrictions discipline places on a child should make him feel secure and happy in growing up

Responsibilities for obedience should be suited to a child's age, personality, and interests

If a child is taught how to behave, he will make normal growth toward maturity

If a child is offered plenty of challenging things to do, he is apt to behave well much of the time

If parents are reasonably consistent in setting standards and enforcing discipline, children gradually acquire control over their own impulses

Applying generalized statements to other situations

When Johnnie starts to school at age six, he insists on going alone although there are several crowded thoroughfares to cross. To what degree and how will his mother apply these general statements to this new situation?

Analysis of the lesson on Johnnie's problem

This lesson follows rather more closely than do many in classrooms the complete procedure recommended for problem solving. You will note that reliance only on authoritative references would have brought out fewer examples of debatable ideas and just plain errors in thinking. You have probably also noticed the way that emotions may betray even a normally good thinker. You might find it interesting to compare the steps in problem solving followed by Mrs. Thorne in "The Runaway" with those used by these students. So long as either adolescents or adults can keep a reasonable control over emotions, both can solve problems effectively if the problems are appropriate to their age and experience.

We are about ready to say that no problem solving lesson can be taught successfully without chalkboards--plenty of them. The research on listening in recent years has highlighted the great loss if learning is dependent upon this alone. Consequently, it might be almost a total waste of time if a teacher asked questions without having problems, definitions, assumptions, information collected facing all students as they attempt correlational thinking. Incidentally, writing contributions on the chalkboard does take time, but this can be somewhat reduced and students' ability to see relationships strengthened if contributions are roughly grouped as they are written. In the ideal lesson, perhaps the sub-problems could be written on the chalkboard and the ideas grouped according to these.

One word might be added concerning the relationships indicated in the general statements derived from this lesson. You will note that, because these students were in a school where all content was taught in this way, they were rather sophisticated in being able to perceive relationships in statements and between statements. This ability comes with practice. If the whole idea of relationships happened to be new to students, cruder formulations would be necessary for a time. For instance, in the first general statement, beginners might need to say, "Because of parental attitudes expressed through rules imposed at home, a child's attitudes and actions will be affected." The first statement below this one might read: "If a child is taught the reasons for a parental rule, this will help him to develop intelligent obedience." Again, "When reasons for the child's behavior are explained to him, he will be enabled to relate cause and effect and to gradually learn to do similar reasoning for himself."

Obviously, most teachers are so used to inferring relationships in statements that they may not realize that they, too, once had to learn this art. No matter how lengthy and laborious students' statements must be at first, the end-result of recognizing relationships is worth all it may cost in time and patience.

May we also call your attention to something we have noticed frequently, but is not established by any research we ever read. If you will look at the statement, "A child feels more secure and cared for if he knows there are limits put on his behavior," you will observe it is a factual statement established by research. But examine the two statements just below this. Because of the value judgment implied in these ("should"), possibly stimulated by the verb "feels" in the general statement, students seem to perceive relationships more readily than in factual statements. We have no theory about why students seem to be able to easily perceive relationships in value-oriented statements. Perhaps our limited experience has not been typical. Anyway, what an error it would be to "generalize on too few cases!" Watch your own students and see what they do.

After content goals have been achieved

The review of processes used in thinking is apt to be forgotten in the satisfaction of seeing students' growth in content. But, even with the best of teaching, content may be forgotten or become obsolete. The aid given each student in developing her potentials for thinking clearly and communicating effectively, two out of the four Harvard goals for all general education, will have permanent value. Unless students have questions to ask, a summary of the processes practiced, as set up for outcomes in problem solving, takes a very short time.

But grasp at any question asked! Most such questions are earnest efforts to understand. They give teachers insight into students' difficulties which would be difficult to determine otherwise. Mental processes are not like learning the procedures for running a sewing machine, alas! Moreover, students have such desperate need for thinking straight that we owe them all the help we can give.

Here's one for YOU to try

We thought you might enjoy trying a lesson for yourself now, using similar procedures. Here are a few suggestions to get you started. Since this problem is lengthier and more complicated, it might well be used later in a unit.

Case situation

Mary's mother has proposed that she take care of her four year-old sister, Ann, during the summer vacation. Mary, age 15, thinks this would be fun but wonders if she knows enough. She is particularly interested in knowing how to guide Ann in developing intellectually.

Defining central issues involved

- What will be Mary's responsibilities in Ann's care?
- What is Mary's mother going to do during this period?
- What are the responsibilities of Mary's mother to help prepare her for this work?
- What effect will this activity have on Mary's summer vacation?
- What are Mary's relationships with Ann now?
- What does Mary know about the development of a four year-old child?

Stating assumptions underlying the problem

Ann is a four year-old child with well-rounded normal development
 Play is a form of child growth and development
 A child needs some directed activity
 Mary will have available materials for Ann's learning
 Mary will be free of other responsibilities to spend time with Ann

Formulating the problem and sub-problems

How does a four year-old like Ann develop mentally?
 How does a four year-old play?
 What aids do we have to help children learn?
 What kinds of toys, books, art and music are suited to this level?
 How does playing, even just conversing, with a child help him to learn?

Using possible resources

See film: "Frustrating Fours and Fascinating Fives"
 Read: Shuey, Woods, and Young, Learning about Children. Chicago, J. B. Lippincott Co., 1962, Chapters fourteen and fifteen
 Refer to: A Parent's Guide to Children's Literature by Nancy Larribee, paper back for thirty-five cents
 Check in public library books but records, pictures, etc.
 Ask mothers what are the favorite toys and books of their four year-olds
 Watch and report on the varied play activities of four year-olds
 Read a story to a four year-old so you may come to know this age

You can easily take it from here because there is such a wealth of materials available and research has provided definite conclusions from which to formulate an organized body of content. Our only warning would be that students, fascinated with so many possibilities, may want to learn discrete facts rather than pulling a group of these together in a generalized statement that will have validity for a longer time.

Some other case situations

In addition to mental development, problems also appear in the physical, social and emotional growth of young children. We have found that the following case situations develop well when teaching these aspects. You, too, may have favorite case situations. That is good because generalized statements really ought to be labeled "tentative" until they have been used in class on several different problems, both to test their generality so all students fully accept their validity and for reinforcement of learning to the point of mastery.

Physical growth--The case of Mark and his appetite:

The mother of three year-old Mark was afraid her son did not get enough to eat. Her three older children had always been hearty eaters and never had needed any urging to finish their meals. But Mark became so finicky that his mother let him have a snack at any hour of the day just

to get him to eat something. Finally Mark refused to eat anything at mealtime. He played with his food and became very messy and irritable.

Social growth--The case of Linda, the eldest of three

It was five-and-a-half year old Linda, eldest child of three speaking: "Do you know, Grandma, I don't think anyone loves me any more." Grandma was touched as she asked Linda why she said this, to which Linda replied, "Well, when company comes, they always play with Jimmy and Davie. They don't seem to notice me! And Daddy and Mommy do many things for them that they don't do for me. On Sunday, when I am in Sunday school, Daddy takes Jimmy and Davie for a ride and they stop at McLean's and buy ice cream cones. Mother ties Jimmy's and Davie's shoes but she says I have to tie my own. 'I'm big,' she says, but I really wish she would help me, too, sometimes."

Emotional growth--The case of the big bad wolves

Carol and Dick Thompson slept in adjoining rooms. After the children had been put to bed, they called to each other and conversed about many things. These conversations often related to the wolves who lived on the porch outside the windows. One night Carol, age four, called her mother to her room to complain that Dick, age six, had been scaring her about the wolves and now they were both frightened.

Handling a controversial issue

If you are an experienced teacher of child development, you may ask, "What problem isn't controversial when you get down to specifics in solutions? There is some truth to this. But our job is to produce more intelligent young mothers than we may have now. They must be "sold" on keeping up with recent research findings as they constantly appear in the mass media of sound reputation.

Sometimes, however, there are transition periods between policies when there is conflict in the beliefs of even the experts. For example, according to government statistics, the bulletin, Your Child from One to Six, will be read by more parents than will any other. Have you read what the distinguished authors have written about thumb sucking and pacifiers in 1962? You may be greatly surprised!

"But," the students (and their parents and grandparents) exclaim, "both look awful and are nasty, unsanitary habits!" Pediatricians, if called in to a class, find themselves in disagreement! Some may have read of the recent research and others may not. Adolescents find all this highly stimulating. Such lessons are excellent for developing in older students open-mindedness, healthy skepticism, and a strong desire for continuing learning. They learn to realize that the vital question is not who is right but what is right. Perhaps this one conviction would serve to counteract their present predilection in Illinois for following what mother says.

Some helpful hints gleaned from the literature

We usually find two kinds of articles in today's periodicals. One is devoted to exhorting the readers to "do something about developing the ability of students to think!!!" The other is reporting recent findings from research but in such cautious wording that one's acceptance is, of course, on the hesitant side. A few specialists have offered scattered but positive suggestions that we have found helpful and would like to share with you.

- * Dr. Burton points out that both students and teachers must keep in mind that "individuals see problems differently because of differing experiential backgrounds, degrees of identification with the situation, general health and vigor, current emotional state, social standards, and what is called 'set.'" Had you realized that all these forces were operating?
- * Every research worker complains, as he listens to the rest of us, that "the favorite exercise of some people is jumping to conclusions." In a period of such rapid change, one of the most valuable habits that we as teachers can develop in our students is surely that generalizations should be made cautiously and tentatively
- * Dr. Dressel, writing on "How the Individual Learns Science," has this to say. "What is the best method of acquiring concepts? There is some evidence to indicate that, for relatively easy material, the inductive method of deriving the concept out of many specific examples is adequate. For difficult material, or when the possibility of error in concept formation is great, it appears that a deductive approach is preferable. A combination of the two methods appears to be superior to either method alone"
- * He also states, "The order of acquisition seems to be related to the level of abstraction of the idea. Concepts arising from perception appear more easily formulated than abstract concepts. Undifferentiated and discrete concepts are more readily grasped than differentiated and organized concepts. The actual manipulation of materials should facilitate conceptualization. Grouping materials so as to emphasize common characteristics and minimize irrelevant characteristics seems to help in concept formation"
- * All the "practitioners" who wrote articles emphasized the vital importance of the instructor using the Socratic method--thought-provoking questions. From the students, too, the teacher can profitably encourage questions, criticisms, additions to the class materials, and then ask for evidence of sources. They stress the need for helping students to recognize similarities. They have found that students have learned to distinguish between the evaluation aspects listed in the "Outcomes" on page 80, they tend to do less arguing and more discussing. By questioning, a student may usually be led to see when and why his statement or solution is inadequate.

- * Dr. Burton suggests how any teacher can successfully aid students to stay on a problem. (1) "Holding individuals for the implications of statements made." "Show specifically how that relates to our problem." "That is true and interesting but does it apply to this part of our problem?" "If what you say is true, then how about . . . ?" (Force application to an analogous or similar situation.) (2) Manifesting self-criticism and analysis of his own statements. (3) Occasionally telling students directly but courteously that they are off the point and that the group will have to return to the problem. (4) Tabling a contribution sometimes, with the promise of later discussion when it is applicable.

Evaluation is increasingly important

Whenever innovations are tried, evidence on results must be collected and evaluated. For testing the ability to think, the so-called "application-of-principles" item is superior--but time consuming to prepare. Here's an example of what we mean. It is one item of many prepared by Dr. Hester Chadderdon of Iowa State University. We are uncertain of the present charge, since the costs of paper and labor have been rising and an increase in postage is expected. Inquire of the College Book Store, Iowa State University, Ames, Iowa, for the costs of the tests on "Child Development, ninth grade" and "Child Development, eleventh and twelfth grades." This sample is ninth grade level.

Generalization: It takes time for children to learn; their memory span is short

Four year-old Jimmy has been told many times by Mary, the baby-sitter, to put his toys away. Jimmy never seems to remember as he must always be reminded. What do you think Mary should do? Check the answer(s) you think best:

- ☐ A. Pick up the toys herself for him
- ☐ B. Explain to him that if someone steps on his toys they will be broken
- ☒ C. Keep on reminding him to put his toys away
- ☐ D. Don't let him do anything he really wants to do, until he picks up his toys
- ☐ E. Help him pick up his things, but let him pick up most of them.
- ☐ F. Scold him if he does not pick them up
- ☐ G. Don't do anything, just leave them there

Check the reason(s) for choosing your answer(s):

- ☐ 1. Children should learn to take some responsibility
- ☒ 2. Small children do not remember things very long
- ☐ 3. A baby sitter is in charge when the parents are away
- ☐ 4. Jimmy is too small to do the job all by himself
- ☐ 5. Jimmy likes his toys, and he does not want them broken
- ☐ 6. Children disobey deliberately and Jimmy is especially stubborn
- ☐ 7. It is handier for the children to have their toys around
- ☐ 8. Jimmy learns more slowly than most four year-olds

You will note that the generalized statement of content is first identified. Then, after an analysis of the specific situation, the test maker lists a variety of choices for the student to check. For each choice a reasonable justification is supposed to be offered in the second list. The key (correct answer) is indicated on each list. But just for mental exercise, try matching the remaining choices with the reasons in the second list.

Since application is the whole point of each such item, and teaching has been done through the use of case situations, all the Iowa items are based on brief cases. Choices may be simplified to "Yes" and "No" or no more than two alternatives may be used. More than one of the reasons in these cases usually apply to each choice.

The Iowa items represent untold hours of researchers' time. A trick for busy teachers to use is to supply a case situation and choices. Then use this as a structured essay question. Later examine the many varieties of reasons offered by thinking and unthinking students. The good reasons will have the advantage of being phrased in adolescents' language; the poor reasons will provide alternatives that often would never occur to a teacher but appear logical to teen-agers. To let you in on a secret, that is how many of the ideas in the Iowa tests were secured.

Here is a simple example prepared by an Illinois teacher.

Case situation: Jane's parents hope that, when she starts to school next year, she will enjoy reading as much as they do. Sue, the baby-sitter, may further stimulate her interest by:

- ☐ Having Jane watch stories on television
- ☒ Showing Jane picture books while she reads to her

Write the reasons for the choice you made.

In the first try-out of this item, students wrote so many ingenious reasons for using the television set that a second use with a less self-centered group was necessary. Yet a teacher's highly trained intelligence would have quite a struggle to think of even one acceptable justification for television!

Testing is teaching, too

Of course, you've often read that "evaluation is an integral part of teaching." We ourselves are inclined to think that, if we had more instructional material in the form of test items, the focus of our teaching would be materially improved. Let us illustrate with an example.

A very broad generalization familiar to everyone is "Human beings have a basic need for psychological as well as social, mental, and financial security." When a young child is involved, this can become as simple as "If a situation is new, a child may need the security of familiar possessions." Here is a test item based on this statement.

Case situation: Timmy, age three, has been brought to a day-care center for his first day. When a helper at the center shows Timmy the place to hang his hat and coat and suggests that she will

help him put his things there now, Timmy just clasps his hands together across his chest, shakes his head, and says "NO."

Check below the one best response you think the helper could make:

- _____ A. "All the children hang their coats here, Timmy. You will have to take off your coat and hat if you're coming to nursery school."
- _____ B. "That's all right, Timmy. This is going to be just like your home. You don't have to do anything you don't want to."
- _____ C. "If you feel that you need your hat and coat now, you may keep them on. When you are ready, you can put them here."

Quite obviously this item as it stands could be used as a structured essay question; it can just as effectively be used as a teaching device by throwing open to class discussion the reasons for rejecting or accepting the choices. Keeping in mind the statement about "familiar possessions" and the broad generalization about security from which the statement was derived, think through what you would consider the reasons for your choice.

Here, for your interest, are those suggested by senior high students preparing to carry on work experiences in a public day-care center.

A response was rejected because no acceptance of Timmy was indicated. The last cryptic phrase in the helper's remark could either be construed as something of a threat if Timmy wanted to attend, or, if he was already reluctant, might increase his unwillingness.

B response was rejected because, although it indicates acceptance, it gives him the false idea that just any kind of behavior will be acceptable at the center. Once Timmy learns that this is untrue, his distrust of the helper may seriously reduce his security.

C response was accepted because it expressed acceptance of Timmy and an understanding of his needs. But he is left clear on what is expected eventually.

So what?

Teachers read, are told, and rather believe that they should do more experimental teaching. But few do so! Why? Largely, we suspect, because they are uncertain about how to start.

Now, however, is the very time to start! Every teacher is being challenged to "intellectualize" his teaching--not just the instructors in home economics. And most are "starting from scratch," even those who attended special summer schools to prepare them to teach the "new" way. As Dr. Burton commented about thinking, knowledge is necessary, as in any human activity, but doing the thing is the essential. In these two first issues of the Illinois Teacher of Home Economics you have in condensed form the knowledge you need. Your own courage and drive, we hope, will get you at the doing!

May we offer you some suggestions from our experience, just as we trust you will later share some of your discoveries.

* Start small

Teachers need practice in setting realistic goals for themselves, goals neither so low as to elicit little interest or effort nor so high as to foreordain the project to abandonment before started

* Experiment with one short unit

Select a unit where you feel secure so that students, too, will feel secure as they try to follow your lead in learning new ways

Limit yourself to one unit in order to do a thorough job of planning, preparing lessons, keeping records, evaluating results. After the unit is completed and all the evidence you can secure is in, deliberately set aside time for reflecting on why things happened as they did and how you can do a better job next time

* Select a familiar recent text

Choose one that seems to hold promise for an organized body of subject matter in the form of factual and value statements at different levels

Supplement this text with:

At least one college textbook in the same area--you're likely to find more "whys" in this than in a secondary text

Some recent high school texts in the physical or behavioral sciences on which your unit appears to be based--e.g., an economics text or two for a unit on consumer buying

* Reorganize on paper the text material for the unit

Formulate statements, both factual and value-judgment, into a meaningful outline of content. Keep to the irreducible minimum simple facts that indicate little or no association to anything else

Indicate relationships in statements wherever possible, utilizing these techniques:

Reword text's statements to clarify and indicate relationships

Combine parts of two statements so as to indicate relationships

Supply a missing element from a relationship from the supplementary texts you have collected

* Review this reorganized and restated material

Study material in terms of outcomes sought from unit

Achievement of content

Practice in the thinking process

Decide upon what portions of the outline are absolutely essential for every girl to know. Put aside the remainder

* Formulate problems through which selected statements can be taught

Select these problems in terms of students'. . .

Probable life needs
 Minimum essentials in subject matter
 Basic processes in thinking

In general, follow recommended procedures for problem solving.
 Most problems will vary enough that rigidity will be avoided

* Take time to teach the carefully selected material thoroughly

Emphasize systematically certain selected thought processes that students need and that are adaptable to the problems being solved

Remember that transfer of learning seems to be influenced not only by the extent of the relationships seen at the time of learning but also by the degree of mastery of the learning

* Evaluate student growth in process and product

Give a pre-test before beginning the unit if the "super-preparation" makes this possible; results offer a base line from which later growth can be at least roughly estimated

Keep systematic records of oral and written student-thinking as the unit progresses

Administer a comprehensive end-test largely composed of application-of-principle items

Collect from students unsigned free-response statements, structured or unstructured as seems wise

* Evaluate teacher growth in the privacy of your boudoir

Have you grown in the precision with which you use words, in your sensitivity to meanings of phrases?

Good! This is the first step in every man's struggle to communicate!

Have you learned to perceive the relationships demanded in today's correlational thinking?

This ability is often "caught" by students as well as taught

Has the teaching of orderly processes of thinking enabled you yourself to think effectively?

Have you learned to discriminate among values as you attempted dual goals in your teaching?

Teachers, as well as adolescents, need the discipline of making choices, then learning to live with the consequences

Are you reasonably encouraged with the relevant judgments made?

Presto! You have achieved for yourself, at least in some degree, Harvard's four goals for all education! Congratulations!

ILLINOIS TEACHER OF HOME ECONOMICS

TEACHING MONEY MANAGEMENT

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TEACHING MONEY MANAGEMENT

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State Board of Vocational Education

"Budget trouble is when there is too much month
left at the end of the money"

"Debt is a trap that man sets and baits himself,
and then deliberately gets into"

"A labor saving device is no labor saving device
if you have to work hard to pay for it"

"No wonder it is hard to save money; the neighbors
are always buying things we cannot afford"

These are quips suggested in a curriculum guide for starting a discussion on money management. They avoid the "proverb approach" that youth accuse their elders of employing. An editor of Saturday Review, John Ciardi, in the issue for May 26, 1962, is also inclined to question the old "tried and true" sayings of yesteryear. Here are a few of his modern versions.

"A dollar saved is a quarter earned"

"A rolling stone gathers no pension"

"Early to bed and early to rise probably indicates unskilled employment"

Every one of these quips has an element of truth and an element of falseness in it. No wonder that money management is challenging to teach in these days of economic confusion!

Management of money continues to be one unit in which home economics teachers feel insecure. Illinois teachers reported on the first year's evaluation of "Suggested Scope and Sequence" that management is the area of teaching in which they feel least secure. Use of money is one phase of this area. For long the accusation that home economics teachers force middle class standards of economy on students has been prevalent, and perhaps sometimes with justification. Studies have shown that teachers emerge from middle class families. We are able to teach best what we have experienced personally or vicariously. Desire to evade a stereotype may contribute to omitting units of money management from the home economics curriculum.

It is essential to include units on money management in the curriculum. Whether it be based on student-parent-teacher planning as advocated a score of years ago, or on known needs of society as well as of individuals, as recognized by educators of today, the need is apparent. It is not sufficient to just make believe it is included in some or all of the other units taught. There must be evidence of teaching-learning. Changed behavior is evidence of learning. It is recognized that resulting change may not be instantaneous --in fact, years may elapse before it is noted.

Changes challenge the curriculum

There are apparent changes in every phase of education, and home economics teachers must be ever flexible to meet continuous new challenges.

Last year's outline is not adequate for this year's course. A budget plan of a decade ago with definite percentages of the family income to be spent for given needs is not transferable to today's way of life. As the dual role of the homemaker-career woman is recognized, so must be the variables in use of money.

A survey of time spent on each unit of study in homemaking classes shows that the fewest number of weeks is spent on management. It is difficult, if not impossible, to calculate total time given to study of money management when it is integrated with other units. To be effective, the integration must be recognized by teacher and students. With the changing economic structure of today, it is not possible to foretell the future, but time for study of money management should be provided in the curriculum. This special unit need not be as long as some other units when money management is consciously integrated with each area taught.

At a recent conference of home economics teachers some very sobering facts were presented. At the time Columbus discovered America only one-third of all the knowledge of today was known in the world. Between 1492 and 1900 the second third of the present world knowledge came into existence. Since 1900 the last third has come into being--much of it within the lifetime of today's teachers of home economics. For many of us, it is frightening to contemplate the effect on life if those conveniences added to our existence in just the past five, ten or fifteen years were suddenly to dissolve in the air. In the age of nuclear bombs and unfriendly nations, this is more than remotely possible. These conveniences are obtainable through management of money and allied resources.

In some recent research about 84 per cent of Illinois homemakers placed money management as the most important aspect of family life to be taught. It is up to teachers of home economics to give individual and family finance a definite place in the curriculum.

Organized, systematic thinking is clearly an acquired ability. Definite, continued experience in problem solving, together with analysis of one's process, is necessary. In making decisions relative to use of money, there are many opportunities for critical thinking. The results of these thinking processes produce tangible evidence of the effectiveness of the thinking.

Use and Sources of Materials

This is not intended to be a final word for teaching management of money. If it suggests more effective techniques of gaining and sustaining interest in such study for early adolescents, adolescents, or adults, it will have contributed to fulfilling an expressed need of home economics teachers.

Money management is the term used rather than budget because management implies that the individual is directing and controlling while budget implies control of the individual. People, to a greater or lesser degree, resist being controlled and managed.

Materials have been gathered from innumerable sources including: workshops for Education in Family Finance, the meeting of the Department of Home Economics of the National Education Association in Denver on July 4, 1962, discussions with teachers, observations in classrooms, and printed articles.

Philosophy of Teaching Money Management

The ability to manage money is a basic component of successful home-making. Family and personal finances influence most decisions. We live in a society which is moving away from doing things directly for one's self. Instead, we work at a specialized job, often a routine job, for a pay check. This pay check is exchanged for what we desire as a way of life. The family's shift from a producing to a consuming unit has put a premium upon consumer information and money management. Money management is a learned skill which requires conscious and directed effort to develop and improve.

Home Economics--New Directions

The philosophy stated in the American Home Economics Association's Home Economics--New Directions is:

"We believe that the clearest new direction for home economics is to help people identify and develop certain fundamental competences that will be effective in personal and family living regardless of the particular circumstances of the individual or family."

Five of the twelve competences listed as fundamental to effective living deal directly with money management. These are the competences to

"make and carry out intelligent decisions regarding the use of personal, family, and community resources

"establish long-range goals for financial security and work toward their achievement

"plan consumption of goods and services--including food, clothing, and housing--in ways that will promote values and goals established by the family

"purchase consumer goods and services appropriate to an over-all consumption plan and wise use of economic resources

"take an intelligent part in legislative and other social action programs which directly affect the welfare of individuals and families."

Major emphases in "Suggested Scope and Sequence"

"Management of Resources" and "Consumer Economics" are two of the major emphases in "Suggested Scope and Sequence" developed for the use of teachers of home economics in Illinois. Questions for serious contemplation:

Are we helping students to develop the ability to manage the material and human resources involved in homemaking decisions and practices in light of each individual's and family's recognized goals and values?

Are we helping our students apply the principles of consumer economics to the end that their welfare and that of our nation will be improved?

Understandings on Money Management at Three Age Levels

It is not intended that all of these understandings be presented to a class or group. Some are to be developed by students deliberately employing the processes of effective thinking. Realizing there is not time available for developing all the sections of content, a variation in technique may be utilized. For example, a statement such as "Lack of management tends to cause problems such as: . . ." may be completed by the class or groups within the class. The types of problems which they have experienced or know may be listed. Examples might be included with care given to not encourage personal references. The list may differ from that suggested here or expected by the teacher.

There has been no attempt to exhaust the realm of content relative to use of money. Those who use this will have or will develop other content in variable situations with differing personnel.

It will be noted that these understandings relate to use of money without including principles relative to buying. It is felt another issue would be required for adequate attention to this phase of money management.

If there is learning, some behavior outcomes may be observed by the students, parents, or the teacher. The student can also learn to evaluate his own behavior. Those behavior outcomes given in this outline are only a few examples.

PLANNING THE USE OF MONEY

Understanding: The way money is managed contributes to individual and family well-being.

Statements of Content

Behavior Outcomes

Young adolescents, grades 7, 8, 9

- A. Money management helps solve problems and tends to result in:
1. Less worry
 2. A feeling of security
 3. Planned spending
 4. A means for having wanted items
 5. More lasting enjoyments

- Demonstrates an interest in learning more about managing money by:
1. Expressing satisfaction or dissatisfaction gained from past spending

- B. Lack of management tends to cause problems such as:
1. Disappointments and unhappiness
 2. Being without money
 3. Embarrassment of needless borrowing and debt
 4. Failure to supply needs
 5. No money for extras
 6. Money spent on useless things

2. Studying ways of keeping personal accounts
3. Starting a personal spending-saving plan

Adolescents, grades 10, 11, 12

- A. Money management is a skill:
1. Learned through information and study
 2. Acquired through experience
 3. Improved by practice.
- B. Clear thinking and continuous planning for successful management:
1. Helps one live within income
 2. Helps prevent wasteful spending
 3. Helps one work toward long-range goals

Demonstrates a willingness to plan through:

1. Reading about money management techniques
2. Studying expense records
3. Questioning choices made in spending
4. Starting planned savings for education or other specific purpose

Shows awareness of benefits derived from managing by:

1. Noting newspaper or magazine articles relating to the subject
2. Having a possession acquired by managing own money

Adults

- A. Intelligent financial planning brings rewards such as:
1. Promotion of family evaluation of goals and standards of living
 2. Greater personal and family happiness
 3. A better environment for teaching children to manage money
 4. Improvement of financial status
 5. Feelings of security and self-confidence
 6. Ability to satisfy more desires
 7. Freedom from embarrassment and worry over lack of money
- B. Lack of financial planning may lead to undesirable consequences such as:
1. Worry over money
 2. Tension and family friction
 3. Insecurity and unhappiness

Demonstrates a desire to up-grade financial planning as an aid in working toward personal and family goals by:

1. Studying past expenditures
2. Recognizing consequences of past spending pattern and expressing a desire for change
3. Examining various record forms as an aid in money management
4. Learning to manage money as a means to individual and family well-being

4. Many unsatisfied desires
5. Lack of reserves for emergencies
6. Impulse buying
7. Embarrassment of needless debt

Understanding: Wants may be unlimited, but available resources to satisfy them may be limited.

Young adolescents, grades 7, 8, 9

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| <p>A. Teenagers have many uses for money, such as:</p> <ol style="list-style-type: none"> 1. School lunches, milk 2. Pencils, pens, paper and other school supplies 3. Books 4. Bus fare 5. Gifts and contributions 6. Gum, candy 7. Playing juke box 8. Hair cuts 9. Hobby materials | <p>Expresses appreciation when his wants are satisfied by parents or others</p> <p>Shows respect for wants and needs of others</p> <p>Takes care of personal and family possessions</p> <p>Earns money working outside the home</p> |
| <p>B. Each person's wants and needs differ, depending upon:</p> <ol style="list-style-type: none"> 1. Age 2. Habits and customs 3. Neighborhood 4. Companions 5. Activities | <p>Willingly helps more with work at home to conserve resources</p> <p>Uses public library and recreational facilities</p> |
| <p>C. Many wants and needs are provided by the family, such as:</p> <ol style="list-style-type: none"> 1. Food and clothing 2. A place to live 3. School supplies 4. Medical and dental care 5. Spending money | <p>Begins to be selective in satisfying his many wants</p> <p>Willingly agrees to give up a vacation trip so that this money can help pay hospital expenses for a relative</p> |
| <p>D. Wants and needs of others sometimes limit fulfillment of one's own wants</p> | |
| <p>E. Sources of money may be:</p> <ol style="list-style-type: none"> 1. Allowances 2. Asking for it 3. Gifts 4. Earning it by work such as baby sitting, paper route, or jobs done for neighbors | |
| <p>F. Resources may be increased by:</p> <ol style="list-style-type: none"> 1. Work done at home such as mowing the lawn | |

2. Taking care of possessions such as keeping tennis racket in its place
3. Using public library, recreation facilities, and others

G. Since money is limited, decisions for its use are necessary

Adolescents, grades 10, 11, 12

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| <p>A. Wants and needs change with:</p> <ol style="list-style-type: none"> 1. Age 2. Personal growth and interests 3. Education 4. Association with social group | <p>Keeps possessions in good repair</p> <p>Avoids fads when other purchases are more important</p> |
| <p>B. Listing wants and needs is a first step in planning use of money</p> <ol style="list-style-type: none"> 1. The list lengthens with such additional items as: snacks, movies, club dues, magazines, record players, records, clothing, jewelry, cosmetics, portable television, camera, recreation equipment, stamps, typewriter, stationery, dates 2. Each person's wants are different | <p>Tests advertising claims with facts</p> <p>Gratifies wants that will lead to well-being but keeps within resources</p> <p>Earns additional money outside the home</p> |
| <p>C. Personal wants are affected by changes in the general economy:</p> <ol style="list-style-type: none"> 1. An increasing number of products 2. More services available 3. Increasing facilities for recreation 4. More money and credit available in a period of inflation | <p>Takes greater responsibility for work at home</p> <p>Uses recreational and cultural facilities</p> <p>Is selective in gratifying wants</p> |
| <p>D. Wants are influenced by external factors:</p> <ol style="list-style-type: none"> 1. Advertising 2. Sales people 3. Credit companies 4. Fads 5. Associates | |
| <p>E. Many wants and needs are provided by the family as a unit rather than by individual members, such as:</p> <ol style="list-style-type: none"> 1. Food and clothing 2. A place to live 3. Education 4. Medical and dental care 5. Pocket money 6. An automobile | |

- F. Listing available resources is a second step in planning use of money. Sources may be:
1. Jobs, such as clerking, service station attendant, secretarial work
 2. Allowances
 3. Asking for money
 4. Gifts
 5. Extending family income through work at home; performing services for self and other family members
 6. Use and care of possessions
 7. Use of recreational facilities, museums, art centers, and others
- G. Since available resources may not satisfy all wants, choices are necessary

Adults

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| A. Preliminary planning includes listing wants and needs of all family members | Lists wants which, when gratified, will lead to family well-being |
| B. Wants and needs of each family will differ with: | Seeks information on economic changes through reading, lectures, conversations |
| <ol style="list-style-type: none"> 1. Occupation 2. Locality 3. Religious customs 4. Special considerations for individual members as health, talents, education, interests and hobbies 5. Number of members | Takes inventory of all family income and other resources |
| C. Needs are related to the stage of the family cycle: | Uses and cares for family possessions |
| <ol style="list-style-type: none"> 1. Young married couple 2. Young children 3. Teenage children 4. Children in college, starting careers, or being married 5. Later years | Takes advantage of city, state, and national public resources such as parks, libraries, and health services |
| D. General societal changes affect family planning, such as: | Takes advantage of company resources provided for use of employees |
| <ol style="list-style-type: none"> 1. Inflation 2. Recessions or depressions 3. War | Is selective in satisfying wants from resources |

Understanding: Personal and family values are determining factors in the expenditure of money

Young adolescents, grades 7, 8, 9

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| <p>A. People show differences in their ideas about use of money by:</p> <ol style="list-style-type: none"> 1. Spending for things which are important to them 2. Using money without thinking of satisfactions to be gained <p>B. Learning to make wise decisions now in the use of money provides background for future planning</p> <p>C. Ideas about use of money may change</p> | <p>Accepts individuals who have different views about what is important</p> <p>Changes lunchroom purchases for improved economy</p> <p>Plans use of money in terms of what is valued</p> |
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Adolescents, grades 10, 11, 12

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| <p>A. Individual values determine:</p> <ol style="list-style-type: none"> 1. Standards 2. Attitudes 3. Behavior 4. Ideals 5. Goals <p>B. Individual value patterns are developed through experiences in:</p> <ol style="list-style-type: none"> 1. Home 2. Church 3. School 4. Community <p>C. Recognition and clarification of values is essential for a sense of purpose and direction</p> <p>D. There are many different value systems</p> <p>E. Values may change with:</p> <ol style="list-style-type: none"> 1. Maturity 2. Education 3. Experience 4. Associates <p>F. One's personal expense account reveals values</p> | <p>Relates reasons for holding certain values in use of money</p> <p>Refrains from criticizing those whose spending reflects different values</p> <p>Starts saving for purposes now considered important</p> |
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Adults

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| <p>A. A family's values determine:</p> <ol style="list-style-type: none"> 1. Standards 2. Attitudes 3. Behavior patterns 4. Ideals 5. Goals <p>B. The effort to clarify and construct a value system:</p> | <p>Verbalizes some basic values and states some reasons for holding them</p> <p>Explains the role of values in directing the family's way of living</p> |
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| 1. Gives a sense of purpose and direction | Evaluates the family |
| 2. Supplies the basis for individual and group action | spending pattern in terms of basic values |
| C. Experiences within the family are meaningful sources of values | Shows appreciation of various values held by family members |

Understanding: Financial planning is necessary at all income levels in order to obtain optimum satisfaction from the use of available resources.

Young adolescents, grades 7, 8, 9

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| A. Preliminary steps for money management are: | |
| 1. Selecting a record form | Selects a record form to suit needs |
| a. with as few headings as possible | |
| b. easy to use | |
| c. requiring little time to fill in | Keeps a personal expense account over a period of one or two months |
| 2. Keeping a personal expense account: | |
| a. of day by day spending | |
| b. over a period of one or two months | |
| 3. Studying the spending record to discover: | |
| a. too little spent for some items | |
| b. too much spent for some items | |
| c. satisfactions gained from spending | |
| B. Steps in planning use of money are: | Makes a personal spending plan |
| 1. Making a complete account of resources: | |
| a. allowance | |
| b. money earned | Makes an effort to carry out plan |
| c. gifts | |
| 2. Setting goals for: | |
| a. spending | |
| b. sharing | |
| c. saving | |
| 3. Making a written plan | |
| 4. Keeping a written record | |
| 5. Evaluating and revising plan as needed | |

Adolescents, grades 10, 11, 12

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| A. Basic steps for financial planning include: | Keeps a personal record of use of money over a period of time |
| 1. Keeping an expense record | |
| 2. Studying the record for weaknesses and strengths | Makes a plan for personal use of money |
| 3. Estimating total money, time, skill, and material resources | |
| 4. Comparing expenses and resources | Revises plan as required |
| 5. Setting goals based on needs and wants | |
| 6. Making a spending plan tailored to the individual | |

- B. Spending may be classified under headings:
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| 1. Fixed expenses, such as: | Is more selective when several choices for spending are possible |
| a. required school books | |
| b. bus fare to school | |
| c. lunches at school | Has several definite goals toward which he is working |
| d. help with family expenses as rent and food | |
| e. installment payments on purchases | Does not allow numerous small deviations from goals |
| f. haircuts | |
| 2. Variable expenses, such as: | |
| a. clothing | |
| b. dry cleaning and laundry | |
| c. grooming supplies | |
| d. books and magazines | |
| e. school supplies | |
| f. club memberships | |
| g. recreation | |
| h. gifts | |
| i. contributions to church and charities | |
| j. upkeep on automobile | |
| k. savings | |
- C. A successful financial plan must give consideration to:
1. Balancing income and expenditures
 2. Providing for present, near-future, and future needs
 3. Thinking through goals
 4. Providing for unexpected expenses
- D. Future plans need not be limited by present inventory of money or ability, but can include what must be done to attain goals
- E. Continuous evaluation and revision are a necessary part of successful financial planning
- F. In planning for different situations, the same basic steps are followed with provisions for changed circumstances:
1. Plan for a college student or a person on a job needs to provide for:
 - a. revised list of expenses
 - b. new goals
 - c. accurate accounting of increased resources
 2. Plan for newly married couple must provide for:
 - a. the needs and wants of two persons
 - b. a different and longer expense list
 - c. family goals, immediate and future
 - d. increasing or decreasing resources

Adults

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| <p>A. A successful money management plan is based on the family's own pattern for using income</p> <ol style="list-style-type: none"> 1. Standard budget plans seldom fit a specific family because: <ol style="list-style-type: none"> a. a certain pattern of spending is assumed b. a regular income is assumed c. no provision is made for variation of family goals 2. Each family needs to develop its own spending pattern for optimum satisfactions | <p>Keeps expense record over a period of time as a preliminary step in developing a family financial plan</p> <p>Works with other family members to develop a family financial plan</p> <p>Puts the plan into action</p> <p>Evaluates and revises plan</p> |
| <p>B. A family expense record may include headings such as:</p> <ol style="list-style-type: none"> 1. Fixed expenses <ol style="list-style-type: none"> a. rent or mortgage payments b. household utilities, heat, telephone c. taxes and insurance d. general upkeep 2. Variable expenses <ol style="list-style-type: none"> a. clothing b. food c. home furnishings d. medical and dental care e. contributions and gifts f. savings g. recreation and advancement h. transportation | |
| <p>C. A family record needs to include income from all sources:</p> <ol style="list-style-type: none"> 1. Wages or salaries 2. Interest and dividends 3. Sales and commissions 4. Rents 5. Bonuses, gifts | <p>Sets a time for working on expense record and future plans for use of money</p> <p>Uses all of money income to advantage</p> |
| <p>D. Family records will reveal</p> <ol style="list-style-type: none"> 1. Balance between income and expenditures 2. Variability of income and expenses during the year | <p>Puts emphasis on family members and their goals</p> |
| <p>E. A successful family financial plan provides for:</p> <ol style="list-style-type: none"> 1. Attainment of family goals 2. Individual needs and wants of members 3. Security resulting from adequate reserves 4. Savings for future desires 5. Liquidation of debt | |

6. Insurance for protection
7. Investments
8. Feeling of achievement by all family members
9. Challenge for all family members
10. Some free choice by all family members

F. Adjustments in the plan are needed to fit a changing family situation.

G. Continuous evaluation of the plan is needed to see that family goals are being attained

Understanding: A successful financial plan considers the utilization of all the family's human and material resources.

Young adolescents, grades 7, 8, 9

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| A. Resources, through planning, usually provide for wants | Uses and increases interest by reading library books |
| 1. Human resources | |
| a. attitudes and interests | Uses energy to make a cake |
| b. talents and skills | |
| c. knowledge | Demonstrates attitude by willingness to keep room in order |
| d. energy and drive | |
| e. use of time | |
| 2. Material resources | |
| a. money, bonds, and checking accounts | Uses savings to buy a desired record |
| b. credit | |
| c. possessions | |
| d. public services and facilities | Uses time to participate in club work |
| B. Satisfactions are increased through planned use of all resources | Directs energy toward a constructive project such as a paper route to buy bicycle |
| C. Plans need to provide for contributions of each family member according to his available resources | Demonstrates good attitude toward job. Example: See that papers are delivered in good condition |
| | Uses knowledge and skill to improve job performance. Example: Learns to fold papers quickly |
| | Uses money earned to purchase something which will increase personal resources |
| | Starts saving for a definite purpose according to interests. Example: For a butterfly net or college |

Adolescents, grades 10, 11, 12

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| <p>A. Characteristics of resources need to be understood in order to plan their use wisely</p> <ol style="list-style-type: none"> 1. Substitution of one resource for another, such as: <ol style="list-style-type: none"> a. money for energy. Example: sends out laundry, takes cab to school b. energy for money. Example: washes car, makes doll from stocking 2. Alternate uses of resources <ol style="list-style-type: none"> a. money for book or movie b. time to attend party or do volunteer work at hospital c. energy for mowing lawn or for tennis game 3. Interdependence of resources.
Examples: Bathing baby is a combination of knowledge, skill, attitude, energy, time; making a dress is a combination of knowledge, skill, time, energy, money 4. Inter-relationship of resources.
Examples: In washing and caring for clothing, no spare time--more money needed; little skill--more energy required; little knowledge--more energy and time required <p>B. Care of possessions is a part of financial planning since money which would otherwise be needed for replacement is saved</p> <p>C. Equipment must be used in order to justify money spent for it. Examples: Electric mixer used to save time and energy; type-writer used to prepare school lessons neatly and efficiently</p> <p>D. Public resources can be used to conserve own resources. Examples: Reading book from library instead of buying it; using tennis court in park instead of having own</p> | <p>Shows an awareness of resources other than money. Example: Uses time, skill, knowledge, and equipment to make bookshelves</p> <p>Substitutes one resource for another, such as energy and time to wash car rather than money to have it done</p> <p>Takes care of clothing and other possessions</p> <p>Uses what has been purchased</p> <p>Uses services available from public institutions such as borrowing books, pictures, and records from public library</p> |
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Adults

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| <p>A. Money management involves decisions about the use of family resources:</p> <ol style="list-style-type: none"> 1. Planning courses of action to reach immediate and long-term goals 2. Guiding action through individual and joint efforts of family members | <p>Uses one resource to replace another when necessary. Example: Uses time, energy and skill to redecorate living room instead of money to pay for having it done</p> |
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3. Evaluating the results in the light of family goals.	Develops new abilities which can serve as resources. Example: Learns to refinish furniture
B. Resources include:	
1. Time	
2. Energy	
3. Abilities and skills	Develops new attitudes which will aid in efficient use of resources. Example: Family learns to eat a wide variety of foods so that substitutions can be made when one food is a better buy than another.
4. Knowledge	
5. Attitudes and interests	
6. Public and private facilities	Makes an effort to learn new facts about available resources. Example: studies to learn least expensive sources of food needs
7. Materials possessed by family members	Makes use of community resources for inexpensive or free recreation such as library, park, swimming pool, flower shows
	Helps family members reach agreement on a money management plan utilizing resources possessed in carrying out various duties for which each will be responsible

Understanding: More cooperation in carrying out a family financial plan is likely when each family member understands and shares in the planning according to his level of maturity.

Young adolescents, grades 7, 8, 9

A. As a family member, one contributes to the total family income by assuming responsibilities that save money, such as washing the family car, mowing the lawn, helping with a vegetable garden	Makes good suggestions for some uses of family resources
B. Each family member shares in the use of goods and equipment purchased for the home	Complains less about not having certain items
C. Family members who take part in planning the family's use of money learn by this experience to:	Expresses appreciation for some of the things provided by the family
	Abides by decisions made by the family in regard to

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| 1. Make good suggestions for controlling funds | use of resources |
| 2. Understand that dollars must be available for needs | Keeps confidences in regard to family money matters |
| 3. Realize that all family members have needs | |
| 4. Better understand the cost of food, clothing, household expenses, education and recreation for the family | |
| D. Family members who share in planning family spending need to: | |
| 1. Keep confidences | |
| 2. Respect other people's ideas | |
| 3. Show consideration for others | |
| E. Some parents find it easier to plan use of money without explaining to the children, so special effort is required to include them in the planning | |
| F. When children are learning to manage money, some guidance from parents is needed in order to: | |
| 1. Prevent waste | |
| 2. Prevent costly mistakes | |
| 3. Help in developing good judgment | |
| 4. Help in adjusting to special expenses | |
| 5. Point out valuable learnings | |

Adolescents, grades 10, 11, 12

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| A. A family council performs a function in the home similar to the student council at school | Offers suggestions for use of resources when the family plans together |
| B. A successful family council helps its members to: | Stays within the limits agreed upon |
| 1. Develop ability in determining policies | |
| 2. Make wise decisions in managing money | Carries out an agreement in the division of resources |
| 3. Share financial responsibility | |
| 4. Acquire a feeling of security | |
| 5. Appreciate the ideas of other family members | |
| 6. Adjust expenses | |
| 7. Have a feeling of belonging to a family group that is pulling together | |
| 8. Have a feeling of importance in the family group | |
| 9. Acquire valuable experience in managing money | |

- C. Many families plan together informally while doing work together, driving in the car, or at the table at mealtime
- D. When all family members share in planning, there is more interest in control of funds because each one:
 - 1. Understands the plan
 - 2. Accepts some of the responsibility for division of resources and duties
 - 3. Is aware of immediate and long-term goals
- E. As a family member gains experience in handling money and making decisions, he may be given added responsibility for planning
- F. Practices which promote constructive discussion in a family and keep communication lines open are:
 - 1. Using a positive approach
 - 2. Avoiding a unilateral approach
 - 3. Being as careful about the way things are said as about what is said
 - 4. Respecting the opinions of each member
 - 5. Giving each one the opportunity to participate
 - 6. Getting all viewpoints before deciding an issue

Adults

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| A. Keeping communication lines open through frank discussions helps to prevent and resolve conflicts about the use of money | Sets aside time for informal group meetings to discuss family management |
| B. Informal discussions of the family group is one method used for planning | Gives all family members, who are mature enough, an opportunity to enter into the discussion |
| C. A successful family council provides for: <ul style="list-style-type: none"> 1. Participation of all family members when they are old enough to have opinions concerning the money management problem being considered 2. Meeting informally but regularly when all can be present, or attending meetings called by any family member who needs advice of the group 3. Giving each person a chance to have his ideas heard and considered 4. Functioning under rotating leadership 5. Seeking consensus of opinion, but members must recognize when a decision needs to be made by a responsible adult | <p>Encourages family members to listen to and consider views of others, and sets a good example in this respect</p> <p>Recognizes when decisions should be made by an adult and acts decisively in such instances</p> <p>Helps the family to construct and use a financial plan</p> |

6. Respecting the opinion of the person having the greatest experience in the area being discussed

- B. A plan for money management developed by a family determines:
 1. What needs to be done
 2. Responsibilities of each person
 3. Work to be done
 4. Quality of work acceptable to the family

Understanding: The ability and willingness of all family members to follow a plan for spending reduces some of the tensions which may cause family conflicts.

Young adolescents, grades 7, 8, 9

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| <ol style="list-style-type: none"> A. A spending record may help in preventing arguments by showing: <ol style="list-style-type: none"> 1. Amount of money spent 2. Purposes for which it was used | <p>Uses written plan as a guide for what allowance is to cover</p> |
| <ol style="list-style-type: none"> B. A written plan for spending serves to: <ol style="list-style-type: none"> 1. Make clear the purposes for which an allowance is to be used 2. Guide decisions in day-to-day spending | <p>Refrains from begging for money</p> <p>Expresses satisfactions gained by following the written plan</p> |
| <ol style="list-style-type: none"> C. Following a written plan tends to reduce: <ol style="list-style-type: none"> 1. Constant begging for money 2. Asking for unreasonable amounts of money | |
| <ol style="list-style-type: none"> D. Following a written plan tends to: <ol style="list-style-type: none"> 1. Place responsibility on the family member for keeping wants within resources 2. Promote feelings of satisfaction in making the most of resources 3. Reduce feelings of discontent when some wants cannot be satisfied | |

Adolescents, grades 10, 11, 12

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| <ol style="list-style-type: none"> A. A record of money-use shows the degree of ability of each family member to follow the plan set up | <p>Makes no complaints about responsibility for following a written plan</p> |
| <ol style="list-style-type: none"> B. Tensions within a family may be reduced by following a written plan for use of money when: <ol style="list-style-type: none"> 1. Each person knows the amount of his resources 2. Each one sees his share in relation to the total family budget | <p>Adheres to the money management plan without arguments when resources are not sufficient for some wants</p> |

- | | |
|--|--|
| 3. Responsibilities for the use of money are made clear | States that some desire will need to be postponed or forgotten for a planned expenditure |
| 4. Liberties and restrictions accompanying the plan are understood | |
| 5. Goals are revealed in the over-all plan | |

Adults

- | | |
|---|---|
| A. Using a money management plan involves: | Checks regularly on the adequacy of the family financial plan |
| 1. Continuous checking and evaluating | |
| 2. Mental and mechanical checks on spending to avoid over-spending before it occurs | Seeks advice about family financial problems when necessary |
| 3. A workable system of records and accounts | |
| 4. Adaptations as new needs and situations arise | Evaluates sources of advice and does not discuss family financial problems with unqualified persons |
| B. To overcome difficulties when learning to follow a written plan: | |
| 1. Recognize that the plan may not work as desired | |
| 2. Share in exploring causes for failure | |
| 3. Discuss mistakes objectively without fixing blame | |
| 4. Define specific problem and make plans for attacking it | |
| C. Sources of information about financial management are: | |
| 1. University extension bulletins | |
| 2. Financial adviser at a bank or saving association | |
| 3. Books, magazines, and pamphlets available in public libraries and schools | |
| 4. Courses in high schools and universities | |
| D. Sources of financial information need to be checked for reliability | |

Understanding: Desirable evaluation and revision of a financial plan to meet changing needs of a family is possible only if the plan is kept flexible.

Young adolescents, grades 7, 8, 9

- | | |
|---|--|
| A. Frequent checks of the plan for use of money are desirable | Checks plan for using money when needs are not covered by it |
| B. Signs that the plan needs revision are: | |
| 1. Resources do not cover needs | Makes changes in the way money is used |

- | | |
|---|---|
| 2. Expenditures for luxuries take money needed for necessities | Cuts down on waste |
| 3. Nothing to show for money spent | Increases income through own efforts |
| 4. Resources have not changed with additional needs | Is careful not to waste note-book paper; avoids losing pencils and pens |
| 5. Needs and wants have changed | Does not buy the cashmere sweater |
| C. Ways of revising plan are: | Refrains from buying the blue skirt seen in the store window because the number already on hand is acceptable |
| 1. Reducing material waste so that an item does not need to be purchased so often | Waits until next year to go to the State Fair |
| 2. Realizing that some items should not be considered | Foregoes buying stuffed dog to put on bed in order to get needed white blouse |
| 3. Avoiding over-buying | Curtails amount of money spent on cokes, candy, and milkshakes |
| 4. Postponing some wants | Buys the inexpensive note-book cover instead of the expensive leather one |
| 5. Omitting some items to provide more money for needed things | Has an evening of TV at home instead of going to the theater |
| 6. Reducing less important items | Gets an after-school and Saturday job mowing lawns |
| 7. Spending less on each item by selecting those which are less expensive | |
| 8. Substituting a less expensive form of recreation for an activity costing more money | |
| 9. Increasing income by a part-time job | |
| 10. Getting an increase in allowance or money from the family if there is need for it and the family feels it can be afforded | |
| D. The financial plan needs to be changed in accordance with one's maturity and changes in family situations | |

Adolescents, grades 10, 11, 12

- | | |
|---|---|
| A. Need for evaluation of a family financial plan is indicated by such signs as: | Adjusts spending to fit circumstances when an emergency occurs |
| 1. A family member feels that his wants are not understood or provision made for them | Expresses need for revising spending plan |
| 2. A family member makes demands which the family cannot afford | Comments on relative satisfactions obtained through use of plan |
| 3. A member asks for more than his share | |
| 4. Income is decreased or expenditures increased by an emergency | |
| 5. Income has increased or some necessary expenditures have decreased | |

- 6. A member's needs are increased
 - 7. New goals are contemplated
- Starts a savings fund for a definite purpose and adds to it regularly
- B. Need for comparing relative values is brought about by changes in the family situation such as:
- 1. Ages of family members advancing
 - 2. A change in geographical location of the family
 - 3. Increase or decrease of income
 - 4. Increase of debt
 - 5. Emergency caused by illness or accident
 - 6. New equipment, services, or inventions making possible a different way of living
 - 7. A family member going away to college, getting started in business, or marrying
- C. Aids in keeping a family financial plan flexible are:
- 1. Willingness of family members to accept needed changes
 - 2. Ability of the family to detect the need for change and find solutions
 - 3. Accumulation of an emergency fund

Adults

- A. Financial plans need evaluation in the light of factors such as:
- 1. Special needs of the family as a whole and its individual members
 - 2. Provision for emergencies
 - 3. Ability to pay bills or debts as they fall due
 - 4. Trends in the national economy
 - 5. Long-range family goals
- Encourages continuous evaluation of the family's financial plan
- Keeps records carefully and makes changes in record forms as needed
- Continues to use plan when it has been set up
- B. Procedure to facilitate control includes:
- 1. Recording expenses and income
 - 2. Making budget allotments
 - 3. Classifying expenditures
 - 4. Itemizing purchases
 - 5. Summarizing periodically
- Keeps inventories of possessions up to date
- C. Revision is needed when:
- 1. Situations within the family change
 - 2. Plan does not seem to be promoting family goals
 - 3. Emergencies arise
 - 4. Wide discrepancy between plan and its execution is noted

- D. Devices to aid in evaluation are:
1. Records of income and expenses
 2. Net worth statements
 3. Inventories
- E. Evaluation needs to be continuous if family is to achieve long-range goals for managing money

Understanding: Self-discipline in meeting needs and gratifying desires can lead to greater and more permanent satisfactions.

Young adolescents, grades 7, 8, 9

- | | |
|---|---|
| <p>A. Self-discipline is a learned skill which:</p> <ol style="list-style-type: none"> 1. Requires self-control in foregoing immediate pleasures for future desires 2. Is not easy, but becomes easier with practice | <p>Gives up an immediate pleasure for a future goal</p> <p>Keeps from spending money on an unnecessary item in order to have enough for necessary future expenses</p> |
| <p>B. Lack of self-discipline in spending may result in:</p> <ol style="list-style-type: none"> 1. Luxuries replacing necessities 2. Unbalancing the family plan for use of money | <p>Foregoes satisfying a want to provide a necessity for another family member</p> |
| <p>C. Satisfactions gained from practicing self-discipline may be:</p> <ol style="list-style-type: none"> 1. A sense of pride and feeling of achievement 2. The job of helping others when in a family group one member goes without something to provide another member with a necessity | |

Adolescents, grades 10, 11, 12

- | | |
|--|--|
| <p>A. Self-control in meeting needs and gratifying desires is gained through:</p> <ol style="list-style-type: none"> 1. Weighing values 2. Considering consequences 3. Making decisions 4. Evaluating results | <p>Compares values before spending</p> <p>Keeps within planned expenditures</p> |
| <p>B. Self-control in carrying out a financial plan can keep one from over-spending by:</p> <ol style="list-style-type: none"> 1. Helping curb impulse buying 2. Distinguishing between planned and unplanned needs and wants | <p>Acquires a much-wanted item through careful planning and spending over a period of time</p> |
| <p>C. Self-discipline in using a charge account helps one to remember its purposes:</p> <ol style="list-style-type: none"> 1. Convenience and safety 2. Knowing the total amount spent each month 3. Establishment of credit rating | |

- D. Practicing self-discipline results in increased skill of making money go where one wants it to go
- E. Self-discipline is one tool to aid in attaining long-range goals

Adults

- | | |
|---|--|
| <ul style="list-style-type: none"> A. Self-control aids in keeping a financial plan working: <ul style="list-style-type: none"> 1. Helps combat outside influences such as: <ul style="list-style-type: none"> a. advertising b. supermarket gimmicks to promote impulse buying c. lure of credit d. keeping up with the social group e. unreasonable demands of family members 2. Aids in directing resources toward planned goals: <ul style="list-style-type: none"> a. money is spent in ways planned b. planned additions are made to a savings fund c. equipment and time are used as planned | <ul style="list-style-type: none"> Evaluates advertisements Follows a written list when shopping Saves a planned proportion of income Studies and uses investment plans Saves for a definite purpose Gives children guidance in use of money |
| <ul style="list-style-type: none"> B. Giving children an opportunity to practice self-discipline is a responsibility of adults: <ul style="list-style-type: none"> 1. Giving an allowance with guidance in its use 2. Increasing responsibilities for use of money 3. Providing guidance in setting up goals 4. Helping children to practice saving until it becomes a habit 5. Providing opportunities for making decisions based on knowledge and experience 6. Refraining from granting all wants of a child | |

Process for money management

The essential process for money management is the same as for all management and may be illustrated by the circle on the next page. The process indicated is continuous. As work toward a set goal progresses, there is evaluation indicating new goals to set, maybe even before the original goal is reached.



Teaching Techniques and Aids

As opportunity is given for students to think effectively, teachers confront many obstacles. One often expressed difficulty is maintaining interest of all members of a heterogeneous class. Challenging each student to work at top capacity, even occasionally, requires time not always available, and varied techniques.

In a democracy it is of utmost importance that individuals be able to cooperate in making group decisions. It is one of the responsibilities of a teacher to aid students to become adept at decision-making in groups.

The Navy Target Plan

The Navy Target Plan can be adapted to help with learning processes of effective thinking in money management. It may be used in the following way:

Aims: To stimulate students to:

Acquire ability for independent study and thinking

Formulate generalizations based on experience, observation and study

Develop skills for use in meeting needs now and in the future

Increase competence in making decisions after considering pertinent factors

Evaluate critically results of decisions made

Use: Teacher explains the following procedure to the class:

Divide class into groups of four to eight students, depending upon work to be done and size of class

Each student scans the assigned material and lists what he considers to be the Musts, the Goods and the Nices

Each group chooses a chairman and a recorder

The chairman gets the opinions of each participant as to the Musts, the Goods and the Nices

The recorder makes a written outline of expressed opinions

The teacher visits each group to observe procedures and progress, and to give help as needed

At a designated time recorders meet together and choose a moderator and a recorder

Each of these panel members reports opinions of his group for compilation as to content and value

Class members participate as an audience with opportunity to contribute

The teacher expresses her opinions when appropriate

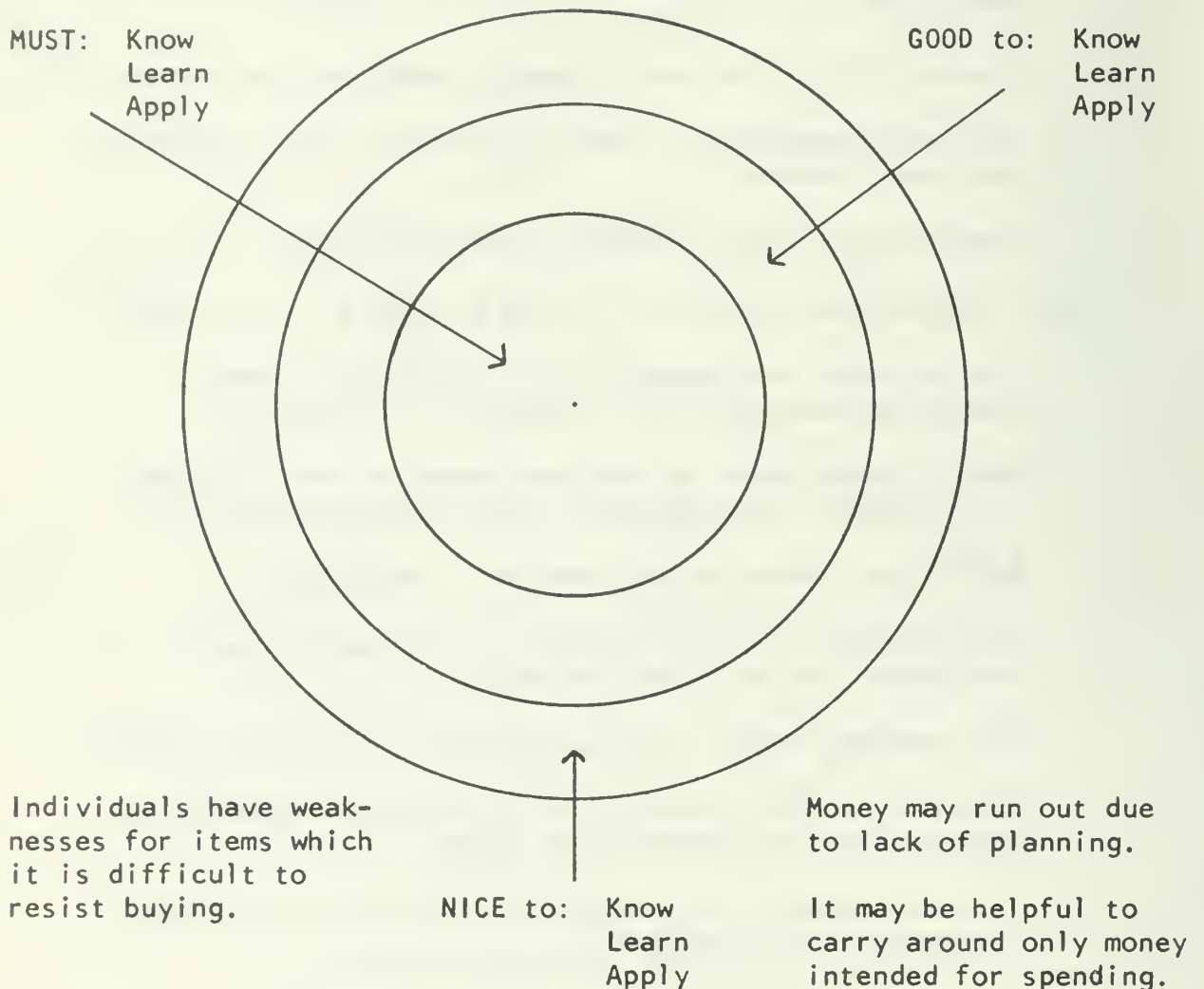
As an example of what might be accomplished with the Navy Target Plan during study of a unit on money management, a magazine article is used. "My Husband and I Never Argue about Money," pages 58-60 of the August, 1962, Reader's Digest might be used with a Family Living class. Human relationships, as well as management, are emphasized in the article.

A free discussion of the use of money, resulting in mutual agreement, helps family members to understand each other's viewpoints and to resolve conflict.

For successful money management, self-discipline needs to be cultivated

Whether or not money is discussed, children in the family are aware of its influence on family relationships.

Divided responsibility for the use of money results in pleasant family relationships



As is true of any teaching technique, this should be used only when it serves a definite purpose. Groups within a class can be formed in relation to common interest, intelligence, or other divisions. Class members should work with different groups at various times. Assignments for scanning may be a paragraph, a page, a chapter, an article, a pamphlet, or other material which may be the same or different for each group within the class. As the technique is repeated during the year, different students should serve as chairman and as recorder to provide opportunity for each to handle different roles.

There will be few "Musts" with the greater number of factors being "Goods." This technique stimulates differential thinking and recognition of basic content.



Thoughts on uses of money

The following are aids in considering the uses of money. Note that each level is arranged alphabetically with no attempt having been made to rank in importance. It is recognized that no one individual will use money for each listing at a given level. On the other hand, there may be need to include items not listed.

Pointers for Using Money

Young Adolescents

- | | |
|--|--|
| <p>A. Clothing</p> <ol style="list-style-type: none"> 1. Jewelry, purses, scarves 2. Garments <p>B. Communication</p> <ol style="list-style-type: none"> 1. Stationery, postage 2. Telephone | <p>C. Entertainment</p> <ol style="list-style-type: none"> 1. Hobbies 2. Pets 3. Tickets <p>D. Food</p> <ol style="list-style-type: none"> 1. School lunch 2. Snacks 3. Treats |
|--|--|

- E. Personal Care
 - 1. Barber, beautician
 - 2. Grooming supplies

- G. School
 - 1. Club dues
 - 2. Supplies

- F. Savings
 - 1. Bank
 - 2. Christmas
 - 3. Stamps and bonds

- H. Sharing
 - 1. Church
 - 2. Contributions
 - 3. Gifts

- I. Transportation
 - 1. Bicycle
 - a. original cost
 - b. upkeep
 - 2. Bus, taxi

Referee for Managing Money

Adolescents

- A. Clothing
 - 1. Accessories
 - 2. Dry cleaning, laundry
 - 3. Garments

- E. Recreation
 - 1. Admissions, dues
 - 2. Hobbies
 - 3. Pets
 - 4. Radio, record player, records, television
 - 5. Vacations

- B. Communication
 - 1. Postage
 - 2. Stationery
 - 3. Telephone

- F. Room
 - 1. Accessories
 - 2. Furniture
 - 3. Redecorating
 - 4. Rent

- C. Food
 - 1. Meals out
 - 2. School lunches
 - 3. Snacks
 - 4. Parties, picnics
 - 5. Treats

- G. School
 - 1. Books
 - 2. Dues
 - 3. Fees, tuition
 - 4. Supplies

- D. Personal care
 - 1. Grooming aids
 - 2. Health and accident insurance
 - 3. Medical needs
 - 4. Professional services
 - a. barber, beautician
 - b. dentist, doctor

- H. Sharing
 - 1. Church
 - 2. Contributions
 - 3. Gifts

- I. Transportation
 - 1. Bicycle or motor scooter
 - 2. Bus, taxi
 - 3. Car
 - a. automobile license
 - b. gasoline
 - c. insurance
 - d. operating expense
 - e. operator's license

The home economics teacher may want to aid students in keeping account of money. Several teachers have found Hold On to Your College Purse Strings (see bibliography on page 141) helpful. At the adolescent level, students are often interested in knowing how much money is spent on them individually. To discover this, they should record what is spent for them by the family under such items as clothing, doctor, insurance and telephone. They would then record the same amounts under money received to balance the sheet for the week or month.

Index for Converting Pay Check to Way of Life

Adults

- | | |
|--|--|
| <p>A. Allowance</p> <ol style="list-style-type: none"> 1. Children 2. Other dependents 3. Parents <p>B. Automobile and other transportation</p> <ol style="list-style-type: none"> 1. Equipment 2. Garage, parking 3. Insurance, licenses 4. Maintenance 5. Original cost 6. Public conveyance 7. Rental <p>C. Clothing</p> <ol style="list-style-type: none"> 1. Accessories 2. Garments 3. Maintenance <p>D. Education and Advancement</p> <ol style="list-style-type: none"> 1. Books, periodicals 2. Private lessons, tutoring 3. Schooling <p>E. Food</p> <ol style="list-style-type: none"> 1. Breads, cereals 2. Cheese, milk 3. Eggs, fish, meat 4. Fruit, vegetables 5. Meals out 6. Prepared and semi-prepared products 7. Special foods 8. Staples <p>F. Indebtedness</p> <ol style="list-style-type: none"> 1. Finance charges 2. Interest e. Principal | <p>G. Insurance</p> <ol style="list-style-type: none"> 1. Credit life 2. Health and accident 3. House 4. Income protection 5. Liability 6. Life 7. Personal property <p>H. Personal care and health</p> <ol style="list-style-type: none"> 1. Grooming aids 2. Medical supplies 3. Professional services <ol style="list-style-type: none"> a. barber b. beautician c. dentist d. doctor e. nurse f. oculist, optometrist <p>I. Savings</p> <ol style="list-style-type: none"> 1. Bank 2. Credit union 3. Investments <ol style="list-style-type: none"> a. bonds b. real estate c. stocks 4. Postal 5. Savings and loan <p>J. Sharing</p> <ol style="list-style-type: none"> 1. Church 2. Contributions 3. Gifts <p>K. Shelter</p> <ol style="list-style-type: none"> 1. Furnishings <ol style="list-style-type: none"> a. maintenance b. original cost c. rental |
|--|--|

- 2. Housing
 - a. down payment
 - b. improvement
 - c. landscaping
 - d. maintenance
 - e. mortgage
 - f. rent
 - g. taxes
- 3. Operating
 - a. services
 - 1) garbage
 - 2) laundry
 - 3) yard care
 - b. supplies
 - c. telephone
 - d. transportation for commuting
 - e. utilities
 - 1) electricity
 - 2) gas
 - 3) water
- L. Recreation
 - 1. Admissions
 - 2. Dues
 - 3. Entertaining
 - 4. Hobbies, sports, boat
 - 5. Pets
 - 6. Radio, records, television
 - 7. Liquor, tobacco
 - 8. Vacations
- M. Taxes
 - 1. Income
 - 2. Personal property
 - 3. Real estate
- N. Zero hour
 - 1. Funeral
 - 2. Burial

Good money management practices for Future Homemakers

The principles of money management should be put into practice when chapters of Future Homemakers of America plan their budgets for the year. The purposes for which money is needed and the amount for each purpose should be given careful consideration. The opportunities available for earning the needed money should be critically analyzed in terms of time, and of school and community relationships.

Provisions must be made for fixed expenses such as state and national dues and state conference fee. Opportunities for earning money are a factor in determining the amount which can be planned for flexible expenses such as banquets, teas, gifts, red roses, et cetera.

The success of a chapter's program need not be dependent upon the size of the budget. Resources other than money are available, as for individuals and families. This is an opportunity for learning to substitute one resource for another. Examples:

<u>USE FOR</u>	<u>MONEY</u>	<u>OTHER RESOURCES</u>
Education	Paid speaker for chapter program	Panel of chapter members Skit written and presented by chapter members
.		
Service	Dollars contribution to Red Cross	Make cancer bandages Baby sit at blood donor center

	Ingredients or foods purchased for gifts to shut-ins	Reading to shut-ins
		Writing letters
		Going on errands
	Buying red roses to beautify a part of community, as school or park	Members exchange seeds and bulbs for beautifying own yards
.		
Social	Mother-daughter banquet at a hotel or restaurant or where food is purchased	Pot-luck buffet
	Costly decorations for dance	Attractiveness through simplicity in use of materials available at no cost
.		

Classroom Learning Experiences

The learning experiences selected do not include specifics related to buying clothing, foods, toys for children, cosmetics, household appliances and furnishings, et cetera, as these would be used for parts of other units. The techniques presented have been used successfully by teachers in units of general money management.

Case study

Teachers sometimes encounter emotional barriers on the parts of their students during the study of money management. It may be quite difficult to discuss money without involving personalities unless careful consideration is given to planning. Case studies provide material which may be presented in an impersonal way, yet will arouse interest.

Selected case studies may be used:

as an introduction to a unit

to illustrate an idea during a unit

as an evaluation device during or at the end of a unit

Some sources of case studies are:

books: biography, fiction, history, texts

magazine or newspaper articles

movies, school plays, television, theater

those constructed by the teacher

those presented by the students

The teacher may find students more willing to participate in class discussion of money matters if encouragement is given to present case studies. Through written work, oral reports, or role playing, students may devise case studies to illustrate ideas and points of view. This provides opportunity for students to include their concerns without having them seem personal.

An example of a case study which might be used with juniors and seniors in high school in estimating the expenditures for the first year of marriage:

John and Susan have been dating for two years. Susan graduated from high school in June, and John will be a junior at State University next term. They have talked of marrying and are trying to decide whether they will wait until John graduates and has a job or whether they'll marry now. Susan majored in business education and does not plan to go on to school.

Together they estimate expenditures for the first year of marriage, explore job possibilities for Susan in University City, and discuss the problem with their parents.

John has a summer job in a local factory. Susan may have a job in an office in University City in September. John's parents agree to continue to pay for his tuition, fees and books as they have been doing.

As the class studies influence of money on possible decisions for John and Susan, individual estimates will vary in amounts allowed for items included, and in omissions. General class discussion may bring forth compromises or differing patterns, depending upon values held by those contributing ideas.

Early marriages are a recognized problem of today. Juniors and seniors in high school need guidance in obtaining knowledge of money requirements for a young married couple. The effect of early marriage on opportunity for further education and job advancement should also be studied in relation to money. The availability of money for furthering education influences the possibility of job advancement in the future. Students may be helped to see this through practical assignments.

Community survey

Working individually, as partners, or in groups, class members may make surveys in the local community to determine:

1. Living costs for food, clothing, shelter, transportation

2. Types of jobs and income available to persons who:
 - a. are terminating formal education before completing high school
 - b. terminated formal education ten years ago before obtaining a high school diploma
 - c. are now graduating from high school
 - d. graduated from high school ten years ago
 - e. are now graduating from a college or university
 - f. graduated from a college or university ten years ago

In a mobile population it is also important that students investigate, as much as possible, the same opportunities for income and the expected expenditures of differing areas where people may be living and rearing their children.

Learnings concerning credit

In today's economic society a thorough study of money management must include understandings of the use of credit. In a mobile population it is necessary to establish a credit rating. Charge accounts and credit cards enable holders to obtain cash. Because credit can act as a medium of exchange and help to raise the material level of living, its use and misuse require study.

A. Credit:

1. expands the supply of money in circulation
2. acts as a medium of exchange just as cash does
3. helps to raise the material level of living
4. used unwisely and overextended, has at times worked to the disadvantage of consumer, business, and the nation

B. Short-term credit is used for goods quickly consumed and longer-term credit for goods consumed over a longer period of time

C. Credit can be of different types and can be obtained from many sources depending upon length of need, credit rating, amount to be borrowed, and the form of credit desired.

Reasons for using credit

A. Convenience

1. unnecessary to carry cash

2. pay for several items at the end of the month
3. use cancelled check for record keeping
- B. Use of the article while paying for it
- C. Unexpected expenditures
- D. Failure to plan the wise use of income

Types of credit

A. Sales credit

- | | |
|------------------------------|---------------------------|
| 1. charge accounts | 4. sales finance accounts |
| 2. revolving credit accounts | 5. mortgage contracts |
| 3. installment accounts | 6. lay-away |

B. Money credit

- | | |
|-----------------------|----------------------------------|
| 1. banks | 5. savings and loan associations |
| 2. credit unions | 6. small loan companies |
| 3. insurance policies | 7. unlicensed lenders |
| 4. pawn brokers | |

Credit instruments

A. Types of credit instruments:

- | | |
|-----------------------------|----------------------|
| 1. chattel mortgage | 4. mortgage contract |
| 2. conditional bill of sale | 5. promissory note |
| 3. installment contract | |

B. It is important to read and understand completely each credit instrument before signing

C. Upon default of payment the seller is legally able to carry out the terms of the contract in regard to attachment, wage assignment, garnishment of some wages, repossession, and the like

Costs of credit

A. Costs of credit include:

1. administrative charges

2. charge for losses the lending agency incurs from bad debts
 3. rental service for use of money
 4. repaying the principal
- B. Costs are higher at institutions which take the greatest risk of loss
- C. It is important that the consumer know the cost of the type of credit he is using

Guides for use of credit

- A. When using credit, consideration should be given to:
1. avoiding incurring a debt without seeing the way to pay for it
 2. buying from reliable firms
 3. having amortized loans
 4. having charges itemized and avoiding a "package deal"
 5. taking advantage of cash discounts
- B. It is sometimes wise to:
1. accumulate and pay cash for an article rather than buy on credit
 2. borrow money and pay cash for an article
 3. buy the article on credit
- C. The decision to save and pay cash, to borrow and pay cash, or to buy on credit must be based on such factors as:
1. length of life of the article
 2. comparative costs
 3. total price, including interest and credit charges
 4. urgency of need for the article

Aid for increasing student understanding of credit

To help students to understand the importance of credit, as it is used in today's way of life, a case study such as the following might be used.

Larry and Ellen are planning to be married in June. They will rent an unfurnished three-room apartment near the school where Larry teaches. They are planning how they will buy furniture and other

household items, continue payments on the car, and handle other expenses. Ellen will continue as a nurse at the hospital.

Suggest:

specific factors they should consider before the decision is made to use credit

the articles Larry and Ellen should purchase for cash and those for which they should use credit

dangers in using credit they must guard against

how credit purchases are able to affect the material level of living for Larry and Ellen

For this to be a problem-solving experience which encourages effective thinking, suggestions should be based upon student investigations. They may be interviews in person or by telephone and/or reading at the library or in the classroom. For learning prevailing salaries, contacts may be made with the chamber of commerce, secretary of the board of education, or superintendent of schools. Catalogues, newspapers, or a visit to local stores will provide costs of items to be purchased. Credit costs are available from such sources as: catalogues, stores, banks, and finance companies. Teachers of other subject areas may help with figuring cost of credit.



The following formula can be used in figuring the true interest rate on problems in money management:

$$R = \frac{2pc}{A(n+1)}$$

$$R = \frac{2(12 \times 39)}{339(24+1)}$$

$$R = \frac{936}{8475}$$

$$R = 11.04\%$$

R -- true interest rate

p -- number of payments per year

c -- finance cost in dollars

A -- total amount borrowed

n -- total number of payments

Resource people

Resource persons from the community may be very helpful if common pitfalls are avoided in using them. Pre-planning on the part of teacher and students is necessary if participation by outsiders is to be most worth-while. A visit with the invited guest, preferably in person rather than by telephone, prior to the day he is to visit should be arranged. It is well to explain what the class is studying, the general knowledge and interest of students relative to the topic to be discussed, and the time to be made available. If there is to be a question period, students should be given an opportunity to prepare the questions and thus avoid the embarrassment of long, awkward silences or irrelevant comments.

The guest should be one who is known to be dependable, honest, one who can speak before groups and who will present unbiased facts when this is desirable. Care should be taken not to offend community members by failing to provide an opportunity for each qualified person desiring to participate. Undue advantage should not be taken of a willing contributor to class activities. Care should be taken to use resource persons only occasionally. It is good public relations and an excellent opportunity for additional educational experiences to have the class send a "thank you" note to anyone who gives of time to share knowledge.

Resource persons who might be helpful during study of money management are:

- * Banker
- * Credit union officer
- * Employer of firms in which there is interest in class
- * Finance company representative
- * Insurance agent or broker
- * Lawyer

To gain maximum value from the information by resource persons, teach students to take careful notes in outline form. After each visitor has left, guide students in comparing their notes as to completeness, accuracy, and meanings of key words. They will be astounded with the results at first but, after several "practices," will individually reach conclusions as to why they err and what they can do about it.

A classroom experience dear to the heart of youth

A perennial hope of adolescents today and an often-debated controversy with parents is "To buy or not to buy a personal car?" Few students, even in their most unrealistic daydreams, expect such a car to be new. Until the September, 1962 issue of Consumer Reports appeared, the purchase of any used car was a not-too-calculated risk. The special article, "How to Buy a Used Car," if studied seriously, should take some of the gamble out of the purchase.

With built-in motivation and up-to-the-minute, realistic information available, a group investigation seems to be a "natural" for breaking in students to the idea that summarization and reinforcement of learning is to be a part of every unit from here on--a not too appealing proposal to many students. Why? Because we ourselves have been slow to realize that one "exposure" was inadequate for full understanding and retention. Students' ideas were gained from their instructors' practices, remember!

To pull together the essential content taught is the first move. This can be done effectively by listing on the chalk board all the basic understandings gained on money management and credit in students' own words. Next, buzz groups may each choose one of the understandings and carry out the responsibility of developing questions that will need answers if the information they have learned is to have any meaning in their young lives. For instance, if the understanding selected by one group happens to be "Wants may be unlimited, but available resources to satisfy them may be limited," such questions as the following may be collected quickly.

How much money would you have to have? (See Consumer Reports)

Where might the money come from?

How could you earn or save for operation and upkeep?

If you got a car, what other satisfactions would you have to do without?

What satisfactions might others have to do without? Would this be fair?

Before recorders from the buzz groups have presented their questions, the class may be challenged to select the most essential ones for further study. Using the list compiled through class discussion, perhaps strengthened by a few of the teacher's ideas, each student may be assigned a paper to be written on the general topic, "The Hows and Whys of Considering a Purchase of a Car for Myself." To insure satisfactory thinking on such a written assignment, even by students in senior high school, some examples of the "how's" and the "why's" will probably need to be developed in class. The very inarticulate student will require further guidance during class periods while the better students are doing additional reading and investigating in the community, as well as writing.

If, as has been recommended in earlier issues, feelings are kept to the minimum and major emphasis placed upon reasoning through the relationships between "how's" and "why's," a written assignment of this type summarizes reinforces learnings, and gives practice in straight thinking. No subject matter area in general education could do more!

Home experiences in money management

Classroom experiences become meaningful when they are put into use in everyday living. A realistic home experience needs to be of importance to the student. There are numerous opportunities for practicing management of money which demand decision-making based on analytical thinking. For a home experience to be worth-while, sufficient time is required to develop understanding and skill. Classroom activities provide bases for home experiences. Students can be encouraged by the teacher to choose practical problems cooperatively with family members. Examples of types of home experiences on money management follow.

A. Young Adolescents

1. Survey your community and list the kinds of jobs you could do evenings and Saturdays according to the seasons of the year. Include the rates of pay and time required for each job
2. Make a study to discover resources other than money you can use for entertainment
3. Make a plan for using an adequate allowance. Cooperate with your parents in determining what this allowance should be
4. Study your habits to discover ways you might help the family to save money. Put into practice the ways of saving money

B. Adolescents

1. Discuss with the family the keeping of important papers and records and help them decide where and how to file them safely
2. Learn to read with understanding the financial pages of newspapers or study the Wall Street Journal. Listen to financial reports on the daily news broadcasts or telecasts
3. Survey your community to learn the education required for jobs available and work toward achieving education for the job of your choice
4. Help your family to keep a record of expenditures on a trip or vacation

C. Adults

1. Devise and keep a bookkeeping system which is satisfactory for your family
2. Aid your children in planning the use of allowances or earnings

Crossword puzzle

Crossword puzzles may be used as an interest approach to introduce a unit or as a type of evaluation at the end of a unit. Students may devise puzzles and exchange them for solving as an incentive to increase vocabulary. Following is an example of a crossword puzzle to be solved with terms related to money management. Lower case letters would be on the blank puzzle.

1 M	2 O	N	3 E	Y				4 M	A	N	5 A	G	6 E	7 M	E	N	T
O	N		A					o	n		D		X	E			
8 R	E	9 C	R	E	10 A	T	11 I	O	N		O		12 T	A	X	E	13 S
T		A	N		U		N			14 A	L	E	R	T		m	A
15 G	A	S			T		S			16 M	E		A				T
17 A	S	H		g	O		18 U	S	19 E		S			20 E			I
G			21 I		M		R		L		22 C	R	E	D	I	T	S
E		23 I	N	C	O	M	E				E			U			F
			S		B			24 P	L	A	N		25 A	C	T		A
			U		I			A			T			A			C
	26 O	U	R		L			27 Y	O	U		28 R	A	T	E		T
			A		E			M			29 D			I			I
	30 B	A	N	K		31 S	H	E	L	T	E	R		32 J	O		
33 B			C					N			B			N	o	o	N
U		34 S	E	C	U	35 R	I	T	36 Y		T		37 M			B	
Y		A				E			E			38 V	I	E	W		i
	39 E	V	A	L	U	A	T	E	S			40 I	N	V	E	S	T
		E				L						e	T	e			s

Guide to puzzleAcross

1. A medium of exchange
4. A process which is made up of many decision-making activities directed toward certain goals
8. Resource affording relaxation and enjoyment
12. Money paid for the use of the government
14. What a person must be to manage money well
15. Fuel for 10 down
16. Person responsible for my management of money
17. All that you may have after a fire in building not covered by 22 down
18. To benefit from money you should _____ it
22. Powers to buy or borrow on trust
23. Salary or wages
24. You need to do this to get the most for your money
25. What you must do to reach goals
26. Yours and mine
27. The person responsible for your management of money
28. Amount of a charge or payment with reference to some basis of calculation
30. An institution for receiving and lending money
31. When purchased probably represents the largest total outlay of money in a lifetime
34. May be attained when money is well managed
38. A mental survey
39. Determines the value of
40. To put money to use by purchase or expenditure, in something offering profitable returns

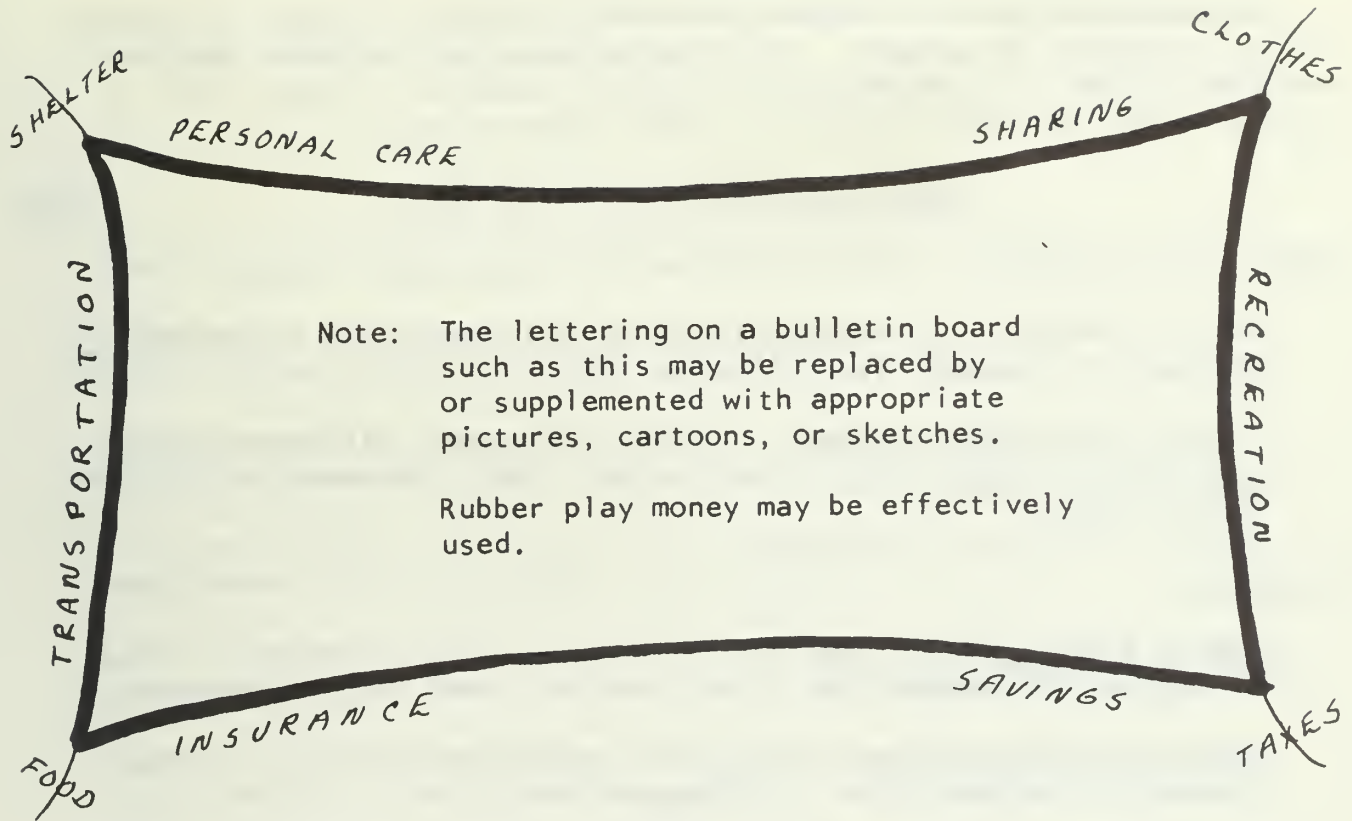
Down

1. A conditional conveyance of property to a creditor as security
2. A single unit or individual
3. To gain as by labor or service
5. Teen-ager
6. That left after all bills are paid; or additional expense
7. Flesh food for which money is used
9. Money on hand
10. Car
11. To guarantee against risk of loss or harm
13. Gained from planned use of money
19. A mode of transportation for the commuter
20. What you expect to attain by attending school
21. Contract, in written form, when you decide to 11 down
24. Compensation
29. That which is owed
32. What you need to assure you of having money to manage
33. Purchase
34. You may do it for a wanted item
35. Money or cash income
36. Affirmative
37. Where coins are made

Bulletin board learning

After reading and discussion, students may be given the opportunity to express what they have read, observed, experienced, or gained from class discussions, using the media of bulletin board displays, posters, or cartoons. Some students who have skill and interest in this type of expression may choose to put their ideas into this form rather than in writing. As teachers say that there is difficulty in clearly defining management, it is imperative that bulletin boards relative to management of money be simple and expressive so that the message is immediately conveyed to the viewer.





STRETCH THAT DOLLAR

Other bulletin board titles which might be used are:

1. Make Money Behave
2. Use Steps to Planning
3. Don't Sing the "Money Blues," Keep It in the Green
4. You Can't Take It with You; What a Difference if You Could!
5. My Cost to My Family (Pictures of items furnished by the family)

Readings and Films

Knowledge gained from reading and seeing films is a basis for formulating statements of content. Listings here are for the three age levels previously used. For academically talented students, a higher level of references may be used.

Young Adolescents, grades 7, 8, 9

Books

Barclay, Marion S., and Champion, Frances, Teen Guide to Homemaking, McGraw-Hill Company, Inc., Chicago, 1961.

Fleck, Henrietta; Fernandez, Louise; and Munves, Elizabeth, Exploring Home and Family Life, Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1959.

Bulletins

How to Use Your Bank, American Bankers Association and Joint Council on Economic Education, No. 2 West 46th St., New York 36, New York.

Make your Pennies Count, Junior Life Adjustment Booklets, Science Research Associates, Inc., Chicago, Illinois.

Moderns Make Money Behave, A Unit on Money Management, Health Insurance, and Life Insurance for Home and Family Living Classes, Educational Division, Institute of Life Insurance, 488 Madison Ave., New York 22, New York, 1961.

Your Illinois Banks, Illinois Bankers Association, 188 West Randolph St., Chicago 1, Illinois, 1957. Published as an educational service for the schools of Illinois

Films

The Littlest Giant, National Consumer Finance Association. Sound, animated, color, 13 minutes.

Managing Your Money, McGraw-Hill Book Co., Text-Film Dept., 330 West 42nd St., New York 36, New York. Set of six film strips, color, average length about 45 frames.

Pay to the Order Of, American Bankers Association, No. 2 West 46th St., New York 36, New York. Sound, black and white, 10 minutes.

Using Bank Credit, American Bankers Association, No. 2 West 46th St., New York 36, New York. Sound, black and white, 10 minutes.

Magazine

Consumer Reports, Consumers' Union of the U.S., Inc., Mount Vernon, New York. Current and past issues.

Adolescents, grades 10, 11, 12

Books

Black, Buy Now, Pay Later, William Morrow & Co., New York, 1961.

Craig, Hazel T., Thresholds to Adult Living, Chas. A. Bennett Co., Inc., 237 North Monroe St., Peoria, Illinois, 1962.

Fitzsimmons, Cleo, Consumer Buying for Better Living, John Wiley & Sons, Inc., New York, 1961

Fitzsimmons, Cleo, and White, Nell, Management for You, J.B. Lippincott Company, Chicago, 1958.

Landis, Judson T., and Landis, Mary G., Personal Adjustment, Marriage and Family Living, Prentice-Hall, Inc., Englewood Cliffs, N.J., 1960.

Rhodes, Kathleen, and Samples, Merna A., Your Life in the Family, J.B. Lippincott Company, Chicago, 1959.

Starr, Mary Catherine, Management for Better Living, D.C. Heath, 1956 (In revision).

Bulletins

Hold On to your College Purse Strings, A Budget Book for College Students, The Blackburn Systems, 5015 Wooddale Lane, Minneapolis 10, Minnesota, Fifty cents

Money into Motion, Michigan Bankers Association, 1502 Bank of Lansing Building, Lansing 16, Michigan. Free.

Money Management Library, Money Management Institute of Household Finance Corporation, Prudential Plaza, Chicago 1, Illinois, 1961. Twelve booklets, \$1.50.

Mrs. Consumer Considers Credit, Household Finance Corporation, Prudential Plaza, Chicago 1, Illinois.

Personal Expense Book, Thurston, Janet C., for School and College Students, The Manual Arts Press, Peoria, Illinois.

The Role of the Commercial Banking System, American Bankers Association and Joint Council on Economic Education, No. 2 West 46th St., New York 36, New York.

The Role of the Federal System, Joint Council on Economic Education, No. 2 West 46th St., New York 36, New York.

You and Your Bank, Mrs. Helen G. Czuy, Channing L. Bete Company, Greenfield, Massachusetts.

Films

A Bond Between Us, Treasury Department, U.S. Savings Bond Division, 426 Denham Building, Denver 2, Colorado. Sound, black and white, 27 minutes. Free.

Casualty Insurance, Visual Aids Service, University of Illinois, Champaign, Illinois. Sound, color, 20 minutes, 1954.

Directing Your Dollars, Film Strip, Institute of Life Insurance, 488 Madison Avenue, New York 22, New York. 62 frames, color, with captions.

How to Invest Show, Sterling Movies U.S.A., Inc., 100 West Monroe St., Room 1105, Chicago 3, Illinois. Sound, black and white, 30 minutes, 1955.

Life Insurance: What it means and how it works, Educational Division, Institute of Life Insurance, 488 Madison Avenue, New York 22, New York. 16mm, color, sound, 13 minutes.

New Look at Budgeting, Household Finance Corporation, Prudential Plaza, Chicago 1, Illinois. Silent with script (be sure to ask for script), 85 frames.

Trouble in Paradise, Association Films, Inc., 347 Madison Avenue, New York 17, New York. Sound, color, 12 minutes.

Magazines

Changing Times, The Kiplinger Magazine, Washington D.C. Current and past issues.

Good Housekeeping, 250 West 55th St., New York 19, New York. Current and past issues.

Ladies' Home Journal, Philadelphia 5, Pennsylvania. Current and past issues.

Adults

Book

Fitzsimmons, Cleo, The Management of Family Resources, W.H. Freeman & Co., San Francisco, 1959.

Bulletins

Consumers Look at Burial Practices, Council on Consumer Information, Colorado State College of Education, Greeley, Colorado.

Decade of Decision, Institute of Life Insurance, 488 Madison Avenue, New York 22, New York. Free.

The Extent of Vocational Health Insurance Coverage, Robert Waldron, Health Insurance Institute, 488 Madison Avenue, New York 22, New York. Free.

Family Economics Review, Institute of Home Economics, ARS, U.S. Dept. of Agriculture. Current and past issues.

Health Insurance After 65, Robert Waldron, Health Insurance Institute, 488 Madison Avenue, New York 22, New York. Free.

Helping You Plan Your Life Insurance Program, Council on Consumer Information, Colorado State College, Greeley, Colorado.

How to Save Money, Mrs. Helen G. Czuy, Channing L. Bete Company, Greenfield, Massachusetts.

A Look at Modern Health Insurance, Chamber of Commerce of the United States, Washington D.C.

Personal Money Management, American Bankers Association, Public Relations Committee, 12 East 36th St., New York 16, New York

Quantity and Cost Budgets for Two Income Levels, by the Heller Committee for Research. Order from the A.S.U.C. Book Store, University of California, Berkeley 4, California. Current issue.

Social Security Bulletin, Social Security Administration, U.S. Dept. of Health, Education, and Welfare. Current and past issues.

Social Security & Life Insurance, Albert Linton, Provident Mutual Life Insurance Co. of Philadelphia, 4601 Marhit St., Philadelphia, Pennsylvania. Free.

The Story of Modern Home Financing, U.S. Savings and Loan League, 221 North LaSalle St., Chicago, Illinois.

Striking a Happy Balance, Robert Waldron, Health Insurance Institute, 488 Madison Avenue, New York 22, New York. Free.

What Will Social Security Mean to You? American Institute for Economic Research, Great Barrington, Massachusetts, 1959.

What You Should Know about Health Insurance, Robert Waldron, Health Insurance Institute, 488 Madison Avenue, New York 22, New York. Free.

You and Your Credit, Mrs. Helen G. Czuy, Channing L. Bete Company, Greenfield, Massachusetts.

Your Health Insurance Needs, Robert Waldron, Health Insurance Institute, 488 Madison Avenue, New York 22, New York. Free.

Films

Built for Living, Southern Pine Association, Box 1170, New Orleans, Louisiana. Sound, color, 30 minutes. (Home construction and finance)

The Inevitable Day, District Director of Internal Revenue, February, 1961. Sound, color, 27 minutes. Free.

Insurance Against Fire Losses, Visual Aids Service, University of Illinois, Champaign, Illinois. Sound, 15 minutes.

Market Place, U.S.A., Sterling Movies, U.S.A., Inc., 100 West Monroe St., Room 1005, Chicago 3, Illinois, 1955. Sound, black and white, 30 minutes.

The Road to Better Living, Association Films, 347 Madison Avenue, New York 17, New York. Color, 25 minutes. (Home construction and finance)

Taking the Mystery out of Wills, Audio Visual Education Center, University of Michigan, Frieze Building, 720 East Huron, Ann Arbor, Michigan. Sound, black and white, 30 minutes.

Magazine

"The Money Left Over for the Good Life," Fortune, Vol. IX, No. 5, November, 1959. See other issues also.

Teacher

References

Illinois Teacher, "Improving the Teaching of Money Management," Vol. I, No. 5, 334 Gregory Hall, University of Illinois, Urbana, Illinois.

Illinois Teacher, "Teaching Economic Concepts within the Homemaking Program," Vol. III, No. 3, 334 Gregory Hall, University of Illinois, Urbana, Illinois.

List of Worthwhile Health Insurance Books, Robert Waldron, Health Insurance Institute, 488 Madison Avenue, New York 22, New York. Free.

Money Management Program Folder, Leone Ann Heuer, Household Finance Corporation, Prudential Plaza, Chicago 1, Illinois. Free. A listing of available low-cost materials.

Journal of Home Economics, 1600 Twentieth St., N.W., Washington, D.C.

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ILLINOIS TEACHER OF HOME ECONOMICS

EXPERIMENTATION IN THE TEACHING OF FOODS

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EXPERIMENTATION IN THE TEACHING OF FOODS

Dorothy Keenan, Southern Illinois University
Barbara Shannon, University of Illinois

"The development of the ability to think is the central purpose to which the whole school must be oriented if it is to accomplish either its traditional tasks or those newly accentuated by changes in the world."
. . . Taken from "The Central Purpose of American Education," a statement issued in 1961 by the Educational Policies Commission

Along with all other workers in the educational system, home economics teachers should find a challenge in the above words. Can we help the students in our classes to develop the ability to think? If we cannot, we may find our subject left out of the changed schools of tomorrow.

We believe that homes are important and that the management of a home requires thought of a high order. We agree with Lou Allen, the head of the first four-year college course in "domestic science," who said

"No industry is more important to human happiness and well-being than that which makes homes."

And we are convinced of the truth of her further statement that "this industry involves principles of science as many and as profound as those which control any other human employment." Can we teach therefore, so that our students will be able to think about these principles? Teacher telling and student memorization will not accomplish this purpose. In her talk on "Teaching Science Principles Related to Foods and Nutrition" which was presented at the American Vocational Association Convention in December, 1961, Ruth Stovall emphasized this point by saying

"We don't discover meanings by being told. Discovering meanings is a matter of experience."

It is entirely possible, however, for students to have many experiences without really "discovering meanings"--without gaining any understanding of the scientific principles on which the experience is based. Someone must set the stage so that the "whys" of procedures, processes and reactions are taught as well as the "how to's." Much experimentation has shown that improvement of reflective thinking does not just happen. The teacher needs to have clearly in mind exactly what she wants to accomplish, and must then set out purposefully to do it.

Methods of Science

In Education for Effective Thinking by W. H. Burton, R. B. Kimball and R. L. Wing, the authors suggest that students need to master the techniques of the scientist to the point where they will be likely to apply them "to all appropriate problem situations which characterize everyday living."

The essential methods are listed as

- * problem recognition
- * hypothesis formulation
- * hypothesis testing
- * tentative acceptance of a hypothesis

Helping students to become skillful in the use of these methods is not easy! If only the science teacher attempts this task, the chances are that the impressions will not be very lasting, and that little actual change in behavior will result. The home economics teacher can help reinforce these learnings by showing how they apply in another area, one closer to the lives of most students. She can also help by showing her respect for the methods, and by providing the kind of social-emotional climate in which students feel free to question and to hypothesize. We have to face the fact that thinking scientifically is hard work. Many students have been trained to accept the teacher's word for everything, and they find it difficult to make the necessary effort to change this pattern of behavior. If their first attempts result in anxiety and frustration, they will be discouraged from further exploration. The excellent little bulletin, Critical Thinking in Current Affairs Discussion, published by the Junior Town Meeting League, 356 Washington Street, Middletown, Connecticut, makes the point clearly.

"Critical thinking is likely to be accompanied by errors and false starts. If students are heavily penalized for making mistakes by the manner and tone of a teacher, or by the manner of other students, they will hesitate to make the try. Helpfulness need not assume the guise of constant appraisal and judgment."

Students Learn to Ask Questions

Have you heard of inquiry training? This exciting new teaching technique is being developed at the University of Illinois by a group of researchers under the leadership of Dr. J. Richard Suchman of the College of Education.

Dr. Suchman believes that

"the human mental apparatus is best equipped for doing its own job of assembling data, processing it, and abstracting concepts, principles and generalizations. Under these circumstances, motivation is high and learning is optimal. But, for the most part, we are not teaching this way in the schools."

One way to gather raw materials for thinking is through the asking of questions. But how much do we really encourage questioning in the classroom?

Dr. Suchman quotes, with dismay, a study of a school system in which ninety-seven per cent of the questions were asked by the teacher!

Can this situation be expected to produce thinkers? question askers? independent explorers of new paths? It seems unlikely!

However, there are questions and questions, and any teacher or parent can list many types which are not worth encouraging. The idea behind inquiry training is to help students develop the technique of asking productive questions--of carrying on the type of investigative procedures that are necessary for the self discovery of relationships. The assumption is that children who start with the facts and work out their own generalizations do a better job of learning than if the generalizations and concepts are handed to them ready made. In addition to facts and generalizations, they are learning how to assemble facts, hypothesize generalizations, and test these hypotheses.

Conditions for inquiry

It has been found that several conditions are necessary in order to bring about productive inquiry by children of the upper elementary grades, the level at which these studies have been carried out.

A concrete problem is important

In the inquiry training research, students are presented with silent motion picture films of simple laboratory demonstrations in physics. An event, such as the bending, when heated, and straightening, when cooled in water of a bi-metallic strip, is shown, and the problem for the children is to find out why it took place as it did.

The second condition is a responsive environment. The children must see that the problem can be solved with information which they can obtain by asking specific questions. The teacher does not explain or interpret anything. The children must take the responsibility of obtaining, organizing, and interpreting data. They do this by asking the teacher questions which can be answered by "yes" or "no."

Students need help in learning how to carry on this kind of investigation. Guidance in the process of inquiry is a third important condition. As the activity progresses, the children are given a plan of action which will give some purpose and direction to their searching. Experience has shown that a fruitful scheme of operations has three stages.

Stage One

Episode Analysis

The process of identifying the objects in the film and the condition of these objects at various times during the demonstration.

Sample Question

Is the strip made of metal?

Stage Two

Determination of Relevance

Separating relevant from irrelevant variables so that attention

can be focused on the critical relationships. The children are taught to perform verbal experiments. They set up experimental conditions, predict outcomes, and then test their predictions by asking the teacher questions. They soon learn that, if they hold all variables constant except one, and change that one variable in a systematic way, they can discover its relevance by observing what effects these changes have on the outcome.

Sample Questions

If you put the bent blade in a refrigerator, instead of in the water, would it straighten out?

If you left the blade to cool off in the air, would it straighten out?

Stage Three

The Formulation and Testing of Hypotheses

The students translate their hunches about what variable is related to another variable into predicted relationships that can be empirically tested (verbally in the actual inquiry session).

Sample Question

Did the two metals expand at different speeds? (It has been previously established that the strip is made of two metals.)

Critiques of inquiry sessions

An important part of the inquiry training program is the evaluation of the questions asked. The sessions are tape recorded and later played back to the group. The teacher stops the tape after each question to discuss its strengths and weaknesses and to help the children learn way of improving their inquiry skills. These "critiques" serve to make the children more aware of the "process" of inquiry and help them form productive search models to guide their investigations.

It has been found that an inquiry training session works best with groups of not more than ten children. A larger class can be divided and part of the students can watch the session while the others do the actual questioning. All will benefit from the observation and critique. Later a different group can be used as "inquirers."

The thrill of discovery

The research workers have found that children who are able to investigate under their own power do not have to be offered outside rewards in order to be motivated to learn. The activity itself is far more stimulating and rewarding than any grade or verbal approval that a teacher can offer.

A sense of self-confidence and power comes from this type of discovery. The child who is able to formulate a rule or law from a series of concrete observations or experiments comes to realize that he is able to find ways of predicting and controlling his environment. Once he is convinced that this environment is orderly and predictable, he is able to "take" the long

and tedious searches for hidden rules and regularities. Furthermore, if he has the chance to search and discover for himself, he soon learns the essentials for a productive attack on a problem.

The researchers at the University of Illinois have just begun to explore this approach. Although it was begun with principles from the field of physics, plans are now being made to test the inquiry method in various other areas of the curriculum, and with students of various age groups. Also they want to determine just how inquiry training can best be introduced into the school program. Inquiry is not seen as a solution to all educational problems, but rather as a basic intellectual tool, like reading, which facilitates the intake and processing of data and the discovery of regularities in the environment.

The teacher is important

It is the teacher who sets the stage for inquiry by posing the problems, by creating a responsive environment from which the children can obtain the data they need, by guiding and directing the children in their investigative operations, and by making it possible for pupils to achieve autonomous discovery and engage in self-directed learning.

Special training and supervised practice may be necessary to prepare teachers to use this technique effectively. In a sense it involves casting the teacher in a new role that is less directive and more responsive than the traditional one. It also involves a shift in emphasis from learning as the retention of facts to thinking and the discovery of concepts and principles. As Suchman says,

"Before we can expect teachers to help their pupils learn to think the way scientists do, we must find ways of helping the teachers learn to think this way themselves."

Asking Questions in Foods Classes

Could home economics teachers use this process of inquiry? It seems that there are a number of principles involved in food preparation which students could be helped to "discover." Long-time readers of the Illinois Teacher may remember the description of the silent demonstration which was given in one of the early issues. In a silent demonstration, the teacher carries on a certain process without comments of any kind. The students are required to find answers to questions on a guide sheet, through careful observation of the teacher's work. This procedure could easily be adapted for an "inquiry session." The teacher would need to be careful to select a process for demonstration which would illustrate a basic principle of cookery. The application of a chemical or physical principle could be shown and the students could be asked to develop for themselves the reasons why the evident results were obtained.

For example, suppose we consider a demonstration in which two potatoes are cooked in an ordinary covered saucepan, and two in a pressure saucepan. The procedures should be carefully planned so that the type of saucepan is the only variable. Potatoes of the same size and variety should be used.

They may be weighed to be sure that they are of equivalent weight. The amount of water used in each pan should be the same, and also the length of cooking time. It would be wise for the teacher to rehearse this demonstration so that she can be sure of these details. Also, since in this case, the degree of "doneness" might not be immediately obvious, it may be necessary to let some students test this by piercing or slicing the potatoes cooked by each method. The question for inquiry becomes:

Why do the potatoes in the pressure saucepan cook faster than those boiled in the regular saucepan?

Undoubtedly students will have a vague notion that the pressure has something to do with it, but almost certainly, they will not have thought further about the reason. An "inquiry session" can encourage them to do so. The pattern of attack outlined in the preceding material can be taught. The first type of question would identify materials and procedures used. For example, students might ask:

Were both sets of potatoes raw when placed in the pans?

Was water the liquid used?

Was anything added to the water?

In cases where the demonstration procedures were very clear, not many questions of this type should be needed, and students could rather quickly move on to determine the relevant variables. To be encouraged at this stage is verbal experimentation. Such questions as

If you used another vegetable, such as carrots, would the results be the same?

If you did not fasten the cover tightly on the pressure saucepan, would the same thing happen?

or

If you cut both sets of potatoes in small pieces, would the ones in the pressure saucepan still cook faster?

would be possible here.

Finally students should be ready to formulate and test hypotheses. One, who knows that steam is hotter than boiling water, might ask

"Is there more steam in the pressure saucepan than in the other pan?"

Another, pursuing the hunch that the temperature of the water may differ could inquire

"Is all boiling water the same temperature?"

and, after receiving an answer of "no," go on to ask

"Well, then is the temperature of the boiling water in the pressure saucepan higher than the temperature of the boiling water in the other pan?"

This person, as one can see, is on the right track and once she goes after the "why" of the temperature difference, should be able to arrive at the answer to the inquiry question.

The time needed to "finish" an inquiry session; that is to state the principle which explains the reactions of the objects manipulated during the demonstration, will vary. Students who are familiar with a principle and need only to state it and apply it to the illustration at hand, can do this quickly. If the principle is new, and if students are unfamiliar with inquiry techniques, more time will be necessary. It is suggested that thirty minutes is probably long enough for the typical session. If students have not arrived at the answer by that time, the teacher can explain the principle, and then go on to an analysis of the procedures used by the group. It has been observed, however, that students often become very excited over this type of intellectual detective work, and do not want to be told the answer. This is one of the outcomes for which we are working, and a rare and rewarding experience for today's teacher of children beyond the primary grades.

Homework for the teacher

Admittedly it is not easy to do a good job of leading an inquiry session. The teacher must set the stage so that students will be ready to try a new technique and to stay with it until they become more skillful. She must be able to think quickly "on her feet." She must carefully plan her demonstration so that one principle is illustrated and other variables controlled. And of course, she must have a thorough understanding of the principle involved so that she can give accurate answers to pupil questions. For the example which has just been discussed, the following points are basic:

1. Water consists of molecules which are in a constant state of agitation. As the molecules strike against the under surface of the liquid they may escape from this surface, or evaporate, accumulating as vapor in the overlying air.
2. As heat is applied, greater agitation of molecules results, greater pressure is built up within the water, evaporation is speeded up and finally visible clouds of vapor form (steam).
3. When the pressure within the fluid is equal to, or slightly greater than, the external atmospheric pressure acting upon it, the water boils. Evaporation takes place at a maximum rate.
4. As liquid vaporizes, it increases in volume. But presence of an external pressure will resist such volume expansion. In this case boiling cannot occur until the internal pressure in the fluid has been raised by an increase in temperature to a point at which it can overcome the external pressure.
5. As the external pressure acting upon a fluid is diminished, the boiling point is lowered. By reducing the pressure over it, water can be made to boil even at room temperature.

Perhaps one additional caution is needed. We should point out to students that the scientific explanations of the way materials react are based

on presently accepted hypotheses. It is possible that further study and experimentation will result in changes in these hypotheses.

Some other possibilities for inquiry sessions

1. Why does moisture accumulate on the outside of a container when it is removed from the refrigerator?
2. How is it possible for thickening of an instant pudding to occur quickly and without heating, when an ordinary starch mixture does not thicken until heated to boiling?
3. Why do overmixed muffins become peaked and tunneled?
4. Why does it take less time to cook a frozen vegetable than the same vegetable when fresh?
5. Why do prunes and apricots lose their "wrinkles" when steamed?
6. Why does a sugar sirup form a soft or hard "ball" when dropped in cold water?

Experimentation in the Foods Laboratory

Inquiry training may be thought of as verbal experimentation. Presumably, it can be used in many situations when physical manipulation of variables would not be possible. But students need to work with real things, too; to have some experiences in handling materials, gathering data through their own efforts, and arriving at some tentative conclusions. A foods unit can provide some of these experiences if the teacher is aware of the possibilities. Classroom experiments can serve as a basis for many valuable learnings. These experiments do not necessarily have to be complex, but they should involve, in the words of Burton, Kimball and Wing,

"the spirit of inquiry, the thrill of discovery, the challenge of creative and imaginative effort."

Surely the area of food preparation presents many opportunities to encourage an understanding of scientific method, and the development of a scientific attitude.

The trained eye

Why not begin with observation? A trained scientist is observant. He notices details that others may overlook. He wonders about things he observes which others may take for granted. Students beginning foods study have all seen water boil. But have they really observed it boil? Do they have any conception of the difference between "simmering" and "boiling"? Do they know what happens as the temperature changes? Do they know how long it takes to boil a given amount of water at a specific burner setting? Probably not. Yet the answers to all these questions are important to the person who is cooking.

Thus a teacher might start her emphasis on experimentation with a

lesson devoted to boiling water. She might choose to demonstrate procedures for observation first, especially for younger students. She could measure, or have a student measure, one or two cups of tap water, and place them in a glass saucepan over a stove burner. If the class were large, several saucepans of water would be needed. The students should watch the changes in the water carefully, each writing down what she observes. After the water boils, the girls could compare notes and make a list of the stages through which the water passed. Probably a first attempt at this exercise would reveal very inadequate habits of observation. Repetition should help the students see more. There is a lot going on in boiling water! A list such as the following might be compiled.

1. Water clear and quiet
2. "Current" lines visible--move about as if floating
3. Tiny bubbles appear on bottom and sides of pan; remain fairly stationary
4. Some bubbles break loose and rise to surface of water where they disappear--others remain on bottom of pan
5. Bubbles increase in size--some which rise to surface move around just under surface before disappearing
6. Bubbles rise very rapidly--become tinier as they reach top (break in water); some remain in water--form and break so as to appear to be "dancing"
7. Water rolls at surface in one or two spots
8. Water rolls over entire surface

Some questions which might arise:

What are the bubbles?

Why do hot things steam?

How hot is boiling water?

Do you have to heat water to boil it?

At what stage is water really boiling?

These questions should all be noted, perhaps on the board, but the teacher will probably not want to answer them directly at this stage. Encouraging a scientific attitude means encouraging students to find ways to answer their own questions, wherever possible.

Further exploration

Once the students have the stages of boiling water clearly in mind, they can explore further. They can determine the time it takes to bring one cup of water to a full rolling boil at different burner settings, on different size units, and in saucepans of different sizes and materials. They can see how the amount of water in the pan and the depth of the water influence the time required to bring the water to a boil. They can add measured amounts of substances such as sugar and salt to the water, and see how these things affect boiling time.

The teacher will need to help in the construction of simple chart forms on which to record the results of the observations. She will also want to see to it that students study their records and formulate some general

statements about the results which they can then use as guides in cooking various foods. For, since home economics is an applied subject, all observation, inquiry and experimentation should be directed toward its application to the practical problems of homemaking. Two generalizations which the students may develop could be:

The more shallow the water in a pan, the sooner it will boil.
Adding salt or sugar to water lengthens the time it takes to boil the water.

Older students might carry on more complicated observation-experimentation with the use of thermometers. The temperature of boiling water could be measured by

1. allowing the bulb of the thermometer to rest on the bottom of the pan
2. holding the thermometer bulb in the bubbles breaking just above the surface of the water
3. suspending the bulb of the thermometer so that it does not touch the pan bottom, but is completely covered with water.

The appearance of the water should be observed at different temperature readings, such as 140 degrees F., 185 degrees F. and 212 degrees F. What temperatures correspond to the various physical appearances of the water which were noted in the previous list? What happens to the temperature of the water when it stops boiling?

A study of the way in which salt and sugar affect the boiling point may be carried on.

1. Pour one cup water into each of two small containers. Mark level of water and add water as needed to maintain this level.

2. Heat water to boiling. Add one teaspoon salt. Stir until dissolved. When water boils again, read the thermometer. Repeat, adding one teaspoon of salt at a time until no further change occurs.

3. In the same manner, add sugar to the water in the other container. Add the same amount of sugar as you did salt. Does the boiling point of the sugar solution also remain constant after a number of additions?

What explanation can be given for the results observed in this experiment?

Stepped-up Learning

For many years, exercises of the type just described have been confined to college foods classes. But students are learning the basic scientific principles in high school physics, chemistry and biology. Why should we wait until two or three years later to illustrate the applications? In fact, with the stepped-up elementary school science programs, the seventh graders who enter our classes are likely to be familiar with many science concepts. To offer them "just cooking" seems painfully out of date!

One seventh grade group enjoyed figuring out for themselves the procedure for making a basic white sauce. The teacher said to them, "Suppose that you would like to make a smooth, thick hot paste from flour and water. You have one cup of cold water and two level tablespoons of flour. What possible ways of combining these two ingredients can you think of?"

The girls saw that several things could be varied, including the amount of stirring, the intensity of the heat, and the length of the cooking time. With a little help, they arrived at enough "treatments" so that each class member could have one to try. The list included:

1. Mix together and cook over high heat, stirring
 2. Mix together and cook over high heat, without stirring
 3. Mix together and cook over low heat, stirring
 4. Mix together and cook over low heat, without stirring
 5. Heat water to boiling point first, then add flour while stirring, and cook, stirring constantly
 6. Heat water to boiling first, then add flour and cook without any stirring
 7. Mix flour with a little of the cold water and stir. Heat the rest of the water to boiling, add paste to it while stirring, and cook, stirring
 8. Heat water to boiling; pour slowly over flour in a bowl and stir, but do not cook on the stove
 9. Repeat no. 8, except, put flour in saucepan, and place on stove to cook, after combining
- (There are many other possibilities.)

The teacher suggested that they keep track of the time required for thickening, but that each should stop cooking at the end of ten minutes, and bring her product, whatever its state, to a central spot where comparisons could be made. You can predict the results, but the girls, of course, could not and were very eager to find out what would happen. Some were upset when their procedures did not work well. Always before, failure had meant "not following directions." The teacher reassured them, saying that not all the methods would work equally well, but that trying unsatisfactory ways would make this evident and help them to remember the better techniques. Interest was high when the group gathered around to see what had happened, and the conclusions were quite obvious. The teacher helped them to generalize from the experience and pointed out that there were several satisfactory ways of solving this problem, and that which one the cook chose might depend on several factors, including the type of food which she was preparing. Method 7 for example, was usually used for gravy because the liquid (fat and juices from the meat) was already hot.

An explanation of the results was given to this class. It would have been better however if class members had been encouraged to track this down for themselves. Perhaps an inquiry session could have been used for this purpose.

This particular class then went on to a study of milk puddings. The teacher told them that cornstarch was usually used as the thickener in puddings and that it had twice as much thickening power as flour. She told

them that two tablespoons of sugar would sweeten a cup of milk and that some flavoring, such as vanilla, would be desirable. Then she challenged them to try to write a recipe for vanilla pudding. Some protested, but one said quietly, "I can do it," and proceeded to do so. After trying out and adjusting this recipe and practicing the technique which they had decided would give a smooth mixture with the least effort, the class proceeded to make a comparison of puddings with various thickening agents. Again each girl made a different type. Vanilla was used as the flavoring in each case. The following were used:

1. Commercial instant--milk added
2. Commercial requiring cooking--milk added
3. Tapioca--using the pre-cooked tapioca product
4. Custard (baked)
5. Junket
6. Flour as thickening
7. Cornstarch as thickening
8. Cornstarch and egg as thickening
9. Gelatin (milk as liquid)

The puddings were made on one day and left to chill overnight. The next class period was spent in a thorough evaluation. The cost per serving of each variation was computed and the time needed to prepare each was noted. The puddings were tasted and scored on consistency, texture and flavor, and compared as to nutritive value.

It seems clear that the girls in this class had learned many things in addition to the way to prepare a cornstarch pudding. They would be more likely to remember a satisfactory technique for thickening with a starchy substance, and they would surely have been exposed to forms of puddings which were new to them. They would have had experience in independent activity, carrying through on an entire process and making judgments about flavor, consistency, etc., during the taste-test comparisons. Perhaps not all seventh graders would be capable of the type of intensive study reported here, but the imaginative teacher should be anxious to find ways of adding enough depth to her foods lessons to challenge students of various ability levels. A look through some of the new elementary science books is revealing. Even second graders are "experimenting."

Some Ground Rules for Experimentation

If teaching techniques which will really help students to understand the scientific method are to be introduced into the classroom, the teacher needs to have a clear recognition of the nature of planned experimentation. Fundamentally, an experiment is set up to test an hypothesis, with an attempt to hold all factors constant except the single variable which is to be measured. Burton, Kimball and Wing list the following criteria for adequate controlled experimentation.

1. The experimentation should be planned in terms of a specific hypothesis or objective.
2. The experiment should permit a comparison of phenomena observed under experimental and control conditions.

3. The only significant difference between the experimental and control conditions should be the variable which is under study. Extraneous influences should be held constant in both samples.

4. Enough cases should be examined to avoid chance errors due to small samples.

5. The design and conduct of the experiment should be such that independent investigators can repeat it.

6. Conclusions must not be generalized beyond the specific limits of the experiment.

In practice, the so-called "law of the single variable" is an ideal assumption which is seldom actually fulfilled in a concrete situation. Also, often one is more interested in a careful analysis of the interrelationships of various factors as they operate normally under conditions that are reasonably typical. However, students should be helped to look for variables which have not been controlled so that they may learn to be cautious about making overly sweeping generalizations. In the work with the starch pastes, for example, the amount of water and flour, the size of the pan, and the length of the cooking time were controlled. There may have been variations, however, in the stirring techniques of the various students, the exact temperature of the stove burners at the two settings, the temperature of the water when heating began, the accuracy of the measurements of the flour and water, etc. Students can be helped to see that the significance of the findings reported from any experiment is determined by

the care with which the experiment was designed
 the accuracy with which the data were collected and recorded
 the judgment used in the analysis of data
 the intelligence exercised in interpreting the findings and in drawing conclusions
 the degree to which all the relevant variables in the area of investigation are known and controlled.

Planning to use experiments with homemaking classes

1. Select an experiment that is appropriate to the unit of study.

You might keep a list of ideas which occur to you while you are looking through professional journals, or just thinking idly. As students become acquainted with this method of work, they will probably bring in questions which can be restated as hypotheses to be tested.

Encourage speculation. "I wonder what would happen if . . ." has been the beginning of many important discoveries.

Aim for simplicity. A well controlled experiment does not need to be complex. Something which can be done with available equipment is desirable. Also, a simple experimental design can be more easily carried out by students, and such participation adds to the educational value of an experiment.

Plan to complete the experiment in one period, if possible, particularly when dealing with younger students. However, some experiments may involve observation for a period of a few days or even weeks.

Choose experiments which will give results sufficiently clear so that students, with some help, can draw conclusions from them.

2. Plan with students, if feasible, the objectives, organization, and details of the experiment, helping them to identify the variables involved, the methods of controlling these variables, and other procedures. Also work out simple ways of recording the results.

If the students cannot help plan, at least be sure that everyone clearly understands the purpose and method to be followed.

3. Assemble all equipment and supplies. Look up information which will help in interpreting results.

4. Run through the experiment at least once outside of class to be sure that equipment functions properly, and to foresee difficulties, if possible.

5. If the experiment is to be a demonstration, instruct student assistants, if any.

6. Schedule experiment for the most suitable time in relation to the work of the class. Introduce it in a way which will arouse interest, and plan with the group the major points which are to be observed.

7. Conduct the experiment, letting students help or take over completely, if this is possible.

8. Record the results.

9. Help the class to interpret results, to draw conclusions and to make applications to other situations.

10. Evaluate the experiment itself in terms of its contribution to the understanding of basic principles of food preparation, management, buying and so on, and of its role in helping students to think logically and critically.

Experimental designs may be set up to

1. provide for a comparison of various products, methods or theories, on a scientific basis
2. help develop judgment in making decisions as to the relative merits of the tested products or methods
3. encourage the development of principles and generalizations which will be applicable to several situations
4. to stimulate interest, promote curiosity, and focus attention on the "whys" as well as the "hows."

Application of principles

Many students can recite science principles glibly, but are unable to see any connection between these principles and ways of behavior which will accomplish desired objectives. Such relationships apparently need to be spelled out rather explicitly, especially for the average or slower learner. It may be helpful if the teacher will organize for herself a list of principles which are related to the various units she is teaching, and then develop applications of these principles as the class work proceeds. She might start by preparing a content outline in which topics involving principles are emphasized. An example of such an outline for quick breads is given here.

- A. Selection of Equipment and Ingredients
 - 1. Measuring, mixing and baking equipment
 - a. Kind of materials
 - b. Weight
 - c. Construction
 - 2. Ingredients
 - a. Purposes in product
 - 3. Recipe analysis
 - a. Proportions
 - b. Form of ingredients
- B. Management
 - 1. Time and energy
 - a. Selection of equipment
 - b. Number of pieces of equipment used
 - c. Order of work
 - d. Work habits--arrangement of work center
 - 2. Money
 - a. Comparative costs of ingredients
 - b. Comparison of home produced and commercial products
- C. Use of Oven
 - 1. Heat
 - a. Source
 - b. Means of transfer--convection currents
 - 2. Thermostatic control
 - a. Hydraulic bulb or compound bar
 - 3. Placement of pans and racks
 - 4. Care and cleaning of oven
- D. Preparation of Pans
 - 1. Material choice
 - 2. Lubrication, use of wax paper or flouring
 - a. Adhesion
 - b. Cohesion
 - c. Friction
 - 3. Heat absorption by materials
 - a. Reflection
 - b. Conduction
 - c. Radiation
- E. Measurement
 - 1. Standardization
 - 2. Accuracy

F. Mixing

1. Solutions and mixtures
 - a. Sugar and liquid
 - b. Protein and liquid
 - c. Starch and liquid
 - d. Baking powder and liquid
2. Reactions and interactions
3. Mechanical effects
 - a. Stirring
 - b. Whipping or beating
 - c. Kneading
 - d. Creaming

G. Baking

1. Coagulation
2. Chemical reaction
 - a. Changes in protein, starches, etc.
 - b. Browning
3. Evaporation and drying
4. Expansion

H. Storage

1. Staling
 - a. Effect of air and moisture
 - b. Mold
 - c. Commercial freshness preservers
2. Freezing

Additions to such an outline could be made as needed for a specific product. For example, under muffins, the conditions making for "tunneling" would be important, thus a consideration of gluten formation could be included.

Within the framework of this outline, the application to food of certain science principles could be developed. Some examples, which were worked out by graduate students at a summer workshop, are given here.

Principle	Application to Food Preparation	Indicated Behavior
1. Light rays are refracted ("bent") when passing from one substance to another of different density.	Liquid in a glass measuring cup appears to vary in height when viewed from different angles.	When measuring a liquid in a glass measuring cup, read the measurement at eye level to minimize errors due to the refraction of light.
2. Gas expands when heated in the direction which offers the least resistance to its movement.	When heated, batter containing bubbles of gas (air, carbon dioxide) will rise in the pan.	Spread batter evenly so that it will rise evenly.

Principle	Application to Food Preparation	Indicated Behavior
3. The effect of a treatment on each of the substances in a mixture will influence the results produced when the treatment is applied to the entire mixture.	If a flour mixture is baked at too high a temperature, the structure of the batter will be set before the gas has expanded enough to carry the batter to the desired height.	Use a stove with a thermostatic control to maintain the proper temperature throughout the baking period.
4. Carbon dioxide gas is formed when an acid reacts with a base in the presence of a liquid.	If the temperature is too low, most of the gas will be driven off before the batter has set and the product will have less volume. Baking powder is a standardized mixture of a base, a material having acid properties and a buffer material, such as starch. It will produce carbon dioxide gas when moistened.	Use baking powder to give a known amount of leavening power. Sift baking powder with other dry ingredients in order to insure a more even distribution of carbon dioxide gas when the batter is moistened.
5. Some chemical changes can be influenced by the physical manipulation of a mixture.	Strands of gluten, with elastic properties, will develop when mixtures with certain proportions of flour and liquid are stirred or kneaded.	Mix muffins only enough to moisten flour, not enough to develop gluten strands.
6. The rate at which heat and gases travel through a substance is influenced by the density of the substance.	A large mass of thick batter offers resistance to a gas movement and also heats through slowly. Thus, in a loaf bread, the outside crust may form during baking before the leavening agent has produced sufficient gas in the interior of a mixture.	Allow a large mass of batter (as in a loaf of nut bread) to stand twenty to thirty minutes before baking to allow time for carbon dioxide to be formed in the center. Bake at a lower temperature than would be used for batters in smaller amounts, or for thinner batters.

Principle	Application to Food Preparation	Indicated Behavior
7. Heated air expands, moving away from the source of heat and toward cooler air of greater density.	Heated air circulates in an oven and free circulation is necessary if even temperatures are to be maintained.	Be sure that air can circulate freely in the oven. Do not fill it too full, allow pans to touch each other or the oven sides, or line it in any way which will interfere with circulation.

Some suggestions for experiments

The ideas in this section are presented as starters for the teacher who would like to introduce some experimentation into her foods teaching. Details will need to be worked out to fit the particular class situation. Remember that procedures should be standardized so that variables are eliminated, except for the one being investigated. Select a problem suited to the level of your class, and one which relates to the topic of study. When the experimenting is finished, remember to discuss three important questions:

1. What tentative generalizations can be made from the results of the experiment?
2. How can this knowledge be used in the preparation of food?
3. What explanation can be given for the results?

* Idea

Compare the thickness and clearness of pastes prepared from various types of starch: wheat (flour), corn, potato, (pre-cooked) tapioca and (pre-cooked) rice.

Procedure:

Mix two tablespoons of each starch with one-fourth cup of cold water. Add three-fourths cup of boiling water gradually, stirring constantly. Heat quickly to boiling and boil one minute. Pour into custard cups. Observe while hot. Cool and observe again.

Note:

The procedure may be varied by mixing the starch with one cup of cold water, and heating this mixture. See if students can devise some way of making an objective test of the consistency of the pastes. For help, use a text in Experimental Cookery.

* Idea

Compare the thickening power of browned and white starch.

Procedure:

Place two tablespoons of flour in a small, heavy skillet and heat until brown, stirring constantly. Cool. Slowly stir in one cup of cold water. Heat to boiling, stirring constantly, Compare

thickness and appearance with two tablespoons of unbrowned flour mixed in one cup of water and heated in the same way.

* Idea

Determine the effect of temperature on the solubility of sugar.

Procedure:

Place one-half cup of cold water in a measuring cup. Add sugar, one teaspoon at a time, stirring after each addition until mixture is clear. Repeat until no more sugar will dissolve and crystals are left on the bottom of the cup. Note the amount of sugar required. Repeat with boiling water. Heat the cold solution to boiling. Will more sugar dissolve in it? How much?

* Idea

Determine the effect of acid and sugar on the thickness of starch thickened mixtures.

Procedure:

a. In a small saucepan, mix one tablespoon of cornstarch and two tablespoons of cold water to a smooth paste. Add three-fourths cup cold water. Bring to a boil, stirring constantly. Continue to stir and cook over a moderate flame for three minutes.

b. Proceed as in "a," but use two tablespoons lemon juice as a source of acid instead of the two tablespoons of cold water.

c. In a small saucepan, mix one tablespoon cornstarch with one tablespoon sugar. Add two tablespoons cold water and mix to a smooth paste. Add three-fourths cup cold water and continue as in "a."

d. Proceed as in "c," but use four tablespoons of sugar instead of one tablespoon.

* Idea

Compare three methods of cooking rice.

Procedure:

a. In a large amount of water

1/3 cup rice

4 cups boiling water

1 teaspoon salt

Add rice to boiling salted water and continue a rapid boil to keep the grains of rice in motion so that they do not stick together. Cook fifteen minutes. Drain in a strainer and wash off loose starch.

b. In a small amount of water

1/3 cup rice

3/4 cup cold water

1/3 teaspoon salt

Use a heavy metal pan. Add rice to salted water. Cover with tight fitting lid; set over hot fire until it boils. Reduce heat as low as possible and simmer for fifteen minutes. Remove lid and permit rice to dry. Use a fork to gently lift the kernels to prevent sticking to pan.

c. Steaming

1/3 cup rice

3/4 cup water

1/3 teaspoon salt

Place ingredients in top of a double boiler and bring to a boil over the flame. Cover and cook over hot water until all the liquid is absorbed and the rice is tender.

Compare volume, appearance, texture and flavor of the rice cooked in the three ways.

* Idea

Determine how to prevent the discoloration of raw fruits.

Procedure:

Cut an apple in six sections. Place each section in a separate shallow dish and treat as follows:

a. Leave untreated

b. Cover with tap water

c. Cover with distilled water

d. Dip in lemon juice for five seconds, then leave in dish

e. Dip in pineapple juice for five seconds, then leave in dish

f. Dip in ascorbic acid mixture for five seconds, then leave in dish.

Expose all dishes for one hour, then compare appearance of the sections with various treatments.

Note:

Try repeating with a banana.

* Idea

Determine the effect of the addition of sugar to apples during the cooling process.

Procedure:

Pare an apple and cut into sixths. Place two pieces in each of three small saucepans or beakers containing solutions as follows:

a. 1/2 cup water

b. 1/2 cup water and two tablespoons sugar

c. 1/4 cup water and 1/4 cup sugar

Repeat with two other varieties of apple. Jonathan, Winesap and Delicious apples are suggested. Note differences in shape, texture, translucency, flavor of the fruit and flavor of the juice.

Additional ideas

1. Determine the effect of acid and alkaline media when cooking red cabbage.

2. Determine the optimum amount of mixing for muffins. Take out batter for two muffins after mixing with 15 strokes, 25 strokes, 50 strokes and 100 strokes.

3. Cook green vegetables

- a. for a long time
- b. for a short time
- c. with vinegar
- d. with soda

4. Note the effect on the texture of a plain cake when hydrogenated shortening is

- a. melted
- b. cut in
- c. creamed with sugar

5. Soak two pans which have held flour mixtures, one in cool and one in hot water. Note difference in ease of cleaning.

6. Bake cookies from the same batch in the same oven, part on a dark tin and part on a shiny tin. Compare degree of browning.

7. Prepare cocoa using

- a. evaporated milk (diluted)
- b. low fat milk
- c. reconstituted non-fat
- d. fresh whole milk
- e. sweetened cocoa mix containing milk
- f. sweetened cocoa mix without milk
- g. chocolate sirup prepared at home
- h. commercial chocolate sirup

Compare cost, flavor, time of preparation. Include chocolate milk from a dairy in the comparison.

8. Make a comparison of eggs of different grades. Fry, hard cook, and poach an egg of each grade. Note differences.

9. Compare different brands of non-fat dry milk solids as to time needed for reconstitution, ease of reconstituting, amount of foam, flavor and cost as compared with liquid skim milk.

10. Compare flavor, texture, color and time required to become tender of vegetables cooked in large and small amounts of water, in large and small pieces, and at rapid and gentle boiling.

11. Cut two small pieces of meat (equivalent in weight) from the same piece of steak. Pan-broil both, one at high temperature, and one at low.

An Introduction to Experimental Cookery

Perhaps many of our readers have found some of the previous material familiar from their college classes in experimental foods. An interest in creative cookery, as well as a better appreciation of scientific method, was often a benefit from these courses. Then, too, they helped us to realize that the present day of knowledge of cooking techniques did not just happen! Could we not try to give our high school students some understanding of the ways in which researchers have gone about adding to our store of knowledge and understandings?

To help achieve this end, the unit which follows was developed as an individual project in a Workshop on the Teaching of Foods and Nutrition which was conducted at the University of Illinois. It was planned to acquaint older high school students with the principles and techniques employed in foods research laboratories. As a result of such a study, students should gain insight into this field of work and some might be encouraged to develop interests which would lead them into a career in the area. And, properly carried out, every experiment should contribute to the development in each student of the spirit of inquiry and an increased respect for cooking as a science.

Teachers who would like to try out this unit are urged to study the entire section carefully first. The equipment and chemicals called for should be available in any high school. Directions should be followed exactly. If time permits, it would be best to carry out the entire study. However, the last exercise and the creative problem could be omitted if necessary. The mechanics of doing and writing research work and the results of each exercise should be discussed in class.

The material has been addressed to the student and is designed to be placed as a manual in the hands of each girl. Certain scientific terms have been used and explained. But it might be well if the teacher actually taught these while the students are using the manual. If this is done, even the dull normal student can learn these materials and methods successfully. And they seem to take special pride and pleasure in feeling that they are "studying a science."

Unit: Cooking is also a science

Have you ever wondered why a recipe failed? Did you ever want to substitute one ingredient for another but were just a bit afraid to try it? Have you asked where the information about vitamins in food came from and how it was obtained?

There are scientists who work daily in food research laboratories answering questions just such as these. They are employed in testing kitchens of industries and in food research laboratories of universities and the government.

Food research, like all scientific study, requires one to seek the answers to questions by carefully planned observation and experimentation. The researcher must keep a constantly open and inquiring mind. Absolute honesty in thought and action is required. Careful records of all observations, experiments and results of experiments are kept. Finally, the entire experiment is written in an acceptable form and published so that other scientists may also gain from the experimentation.

The complete answer to a question is rarely found in one study. In fact, many years of work may be involved in answering the more complex questions. This often confuses the beginning researcher who may expect dramatic, conclusive results from the very first experiment.

You may learn about these basic principles of food research by doing experimental work in your high school foods laboratory. As you work, keep

in mind the above requirements of a scientist. Good work habits, techniques, and methods formed now will yield a sturdy foundation on which to build should you continue your study in college in any area of science, but are equally valuable for insuring accurate results from a home experiment planned to find the answer to some problem that troubles you in the future.

Learning the language of research

As in most other areas there are certain words used in research work which have a special meaning to those in the field. You must acquaint yourself with these terms. The following is an example of an experiment that might be done in a foods research laboratory. The more commonly used terms are underlined and explanation given for each. If you do not understand the explanation, ask your teacher for further help.

A student would like to know if lard used in pastry will yield as good a product as hydrogenated fat such as Crisco or Humko. This is her problem which she hopes to solve in the laboratory by use of scientific methods. She first must learn all that she can about pastry and the use of lard in pastry. If she is near a large library which files research journals she will read and make notes of any previous work done using lard in pastry. This she will summarize for her own research work. It will be called the review of literature.

Having reviewed previous work, she will make careful plans for solving her problem. She will pick the recipe, determine the order she will use in making the pastry, and choose the manner in which she will determine the quality of the pastry. These are the methods she uses to solve the problem. She will then choose the equipment and ingredients to be used. These are the materials. Records of all this as well as all the results she obtains must be kept accurately. She will secure a notebook for these records which are called the data.

The actual experimental work will be the making of the pastry. The student makes two recipes of pastry identical in every way except for the type of shortening used. One will contain lard, the other a hydrogenated fat. This difference is known as the variable and should be the only cause of any difference between the two products. The pastry containing the hydrogenated fat is called the standard since it is used as a reference when deciding upon the quality of the lard pastry.

After the pastries are cooked and cooled, the experimenter must decide if the one containing lard is superior, inferior, or the same quality as the pastry containing the hydrogenated fat. She may use subjective testing, objective testing, or both, to determine this. A group of persons may taste and evaluate the quality of the pastries. This is known as subjective testing. Various types of mechanical apparatus may be used to test certain qualities of the pastries. This is known as objective testing and personal opinion does not enter into this type. But certain qualities, such as flavor, can not be tested objectively. Therefore, it is good to use both methods.

The experiment will probably be repeated many times to make certain that the results are due to the variable and not just to chance. Finally

the student will collect the data and then write up the experiment, stating the results obtained.

Learning the steps in research

Although the questions in foods work which may become research problems are innumerable, all are carried out in a manner similar to the example just given. You should become familiar with the following steps before you begin experimental work.

I. Choose a problem: This is not actually as easy as it may sound. Many things must be taken into consideration. Use the following list as a guide when making your choice.

1. Choose a problem which interests you. You will learn much more if you are interested and really enjoy what you are doing.
2. Keep the first problem simple. Consider the skill required to prepare the food and to do the various tests to evaluate the finished product.
3. Choose a problem which has as few variables as possible. If you have a dozen variables, how will you know which caused the results you obtained? As a general rule, it is best to have only one variable. This sometimes is difficult in foods work. However it would definitely be best to have only one in the first problem.
4. Consider the length of the class period. You certainly could not prepare and evaluate a product which requires one and a half hours cooking time in a one-hour class period. Some problems may be begun during one class period and completed the next day. For example, fresh tomato juice might be prepared one day, allowed to chill over night in the refrigerator, then evaluated the next day. Splitting a problem in this manner requires very careful planning in order not to involve more variables.
5. Consider the equipment available. You certainly can not do a problem which requires the use of a grill if you are unable to obtain a grill.
6. Consider the problems chosen by the rest of the class. Since class members must evaluate the products, a variety of foods should be tested. Tasting all chocolate cakes would become monotonous and not nearly as much would be learned.

II. Make careful plans for the methods and materials you will use in solving the problem you choose. Time spent in planning may save many wasted laboratory hours later. Review the steps listed below as you plan.

1. Read the available material concerning the food you plan to use in the experimentation. Although research journals are not available in most high schools, you can, never the less, read about the product with which you plan to experiment in various textbooks

and cookbooks. This material may be presented as your review of literature.

2. Choose the methods you will use to solve the problem. Knowledge gained from the reading you do will help you in choosing the methods. The objective and subjective testing that you will use in evaluating your products must be planned. In the appendix there are lists of the more common types of these tests. These lists do not begin to include all of the types. Often new objective tests are developed for testing some particular quality of a product. Such tests do not need to be complex nor require expensive equipment. In fact, many of the objective tests are very simple and are done with common kitchen utensils. You may want to try your hand developing such a test for the product with which you are working.

Since you are just beginning to do experimental foods work, it would be best for you to use the score card as your subjective testing. It is the more common of the subjective tests and the results are easier to interpret. If you feel that your problem is a special case in which another type test would be better, ask your teacher to help you plan for this.

Have your teacher examine your proposed methods, including the score card and any objective tests planned. Ask her to make suggestions and corrections.

3. Select the equipment you will need to use. It is best to keep all the equipment you use for an experiment together since you should use the same pieces throughout the experiment. You should become familiar with the operation of all the equipment and should clean it thoroughly in preparation for the experiment.

4. Make careful step-by-step plans for each day's work. Remember, if you plan correctly you can save time and have to wash less equipment.

5. Submit these plans to your teacher for her correction and approval.

6. Make a copy of your plans on a note card which may be kept in view at all times during actual experimental work.

III. Purchase a "data" book: One with cross-hatched pages is best for recording experimental data; however, if this is not available, a regular horizontally lined one may be used. All of your work should be recorded, even the mistakes. One of the necessities of research work is that it be repeatable. This is the reason for the emphasis on keeping accurate records of all work. It is much easier to repeat an experiment when you can read what was done than if you must try to remember what was done. Most research workers keep records in ink so that the work will not become smudged and can be kept for long periods of time. A sample data page is given in the appendix. Follow it when you begin keeping records.

IV. Do the experiment: As you begin laboratory work keep the following things in mind:

1. Begin work promptly.
2. Follow the procedure planned. If it seems advisable to change a step along the way, make a note of the change in the data book.
3. Keep careful, accurate records.
4. Be considerate of those who will score your product. Let them know approximately what time you will want them to score. Remember they are also working on a problem.
5. Leave the equipment clean and ready for the next day's use.

V. Repeat the problem: If time permits it is best to repeat a problem three times to be certain that the results are due to the variation used, not just to chance. When these repeat runs are made, care must be taken to use techniques, equipment, and evaluation methods identical to those used previously. Experiments done in the larger foods research laboratories are repeated many times to be certain that the results obtained are accurate; statistical methods are then applied when interpreting the data.

VI. Write the entire problem: You should include the following in the order listed.

1. Introduction: This should be very short and include the reason for the study.
2. Review of Literature: In your case this will include the summary of the material you read concerning the food you have experimented with.
3. Methods and Materials: These should be listed and discussed when necessary to make the meaning clear.
4. Results and Discussion: The results are gathered from the objective and subjective testing. It is best to average the scores from the subjective testing. For example, if you repeated the problem three times and had four scorers you should add all the scores for flavor obtained from all the scorers over the three-day period. This you should divide by 12 to obtain the average score the product received for flavor. This same process should be repeated for each quality listed on the score sheet.

Results from all testing should be presented to the class in tabular form or by graph. The discussion should bring out the outstanding points shown by the tables and graphs,

5. Summary: This should include a brief summary of what the results of the experiment indicate.

6. Bibliography: This should include a list of the material which you read and summarized in the review of literature. This list is usually arranged in alphabetical order, using last name of author.

Practicing research techniques

The following exercises are designed to acquaint you with some of the techniques used in experimental work and to give you practice in keeping accurate records of your work. These exercises are not to be written as an entire research problem; however, data should be recorded and the questions discussed in class and answered in the data book.

It will probably be necessary to borrow some of the equipment needed for these exercises from the high school chemistry laboratory. In these exercises the abbreviations ml. and gm. will often be used for milliliter and gram.

Exercise 1: Measuring vs. weighing

Experimental foods work requires that all ingredients except liquids be weighed rather than measured. Liquids should be measured in graduated cylinders rather than measuring cups. Greater accuracy than that possible when using ordinary cooking equipment is the reason for both requirements. You will find much evidence of this as you do this exercise.

Materials per person

- 3 sets of measuring cups
- Balance or scales calibrated in either ounces or grams
- Ordinary sifter
- Foley sifter
- Spatula
- Wax pencil or gummed tags for labeling
- Rubber scraper
- 6 cups of all purpose flour
- 3 cups of brown sugar
- 3 cups hydrogenated fat
- 2 cups milk
- 200 milliliter graduated cylinder

Procedures to be followed in this exercise

Flour

Step 1: Mark three one-cup measuring cups A, B, and C. Weigh each of these empty cups. Record the weight and label of each in the data book. Fill these three cups with unsifted all purpose flour. Level each with the edge of a spatula.

Weigh each filled cup and record the weight.
 Subtract the weight of the empty cup from the weight of the filled cup. This is the weight of the flour.
 Record.

Step 2: Empty the flour used above into a sifter and sift once onto wax paper.

Place the sifted flour into the labeled cups with a large spoon. Level with the edge of a spatula.

Weigh each filled cup and record the weight. Determine the weight of the flour as above. The weight of the empty cups may be taken from the previous data.

Step 3: Empty the flour used in step 2 into a container supplied by the teacher. This flour is not to be used in this step but the labeled cups are.

Place unsifted all purpose flour in a Foley sifter and fill each of the three cups by sifting directly into them. Level, weigh each filled cup, determining the weight of the flour as above.

Brown sugar

Empty the flour from the above step into a provided container. Wipe out each cup with a dry cloth so that it may be used for measuring sugar.

Fill each of the labeled measuring cups with brown sugar. Pack well.

Weigh each filled cup.

Record the weight, and determine the weight of the sugar as above.

Place sugar in a container provided by the teacher.

Liquid

Label 3 empty liquid measuring cups. This step is concerned with volume; cups are not weighed.

Fill each cup to the one-half mark with milk.

Transfer the milk from one to a 100 milliliter graduated cylinder.

Record the volume in milliliters.

Empty the milk from the graduate into a container provided by the teacher.

Rinse the graduate, dry it, and repeat the transfer and volume recording for the other two half-cups of milk.

Fat

Label three half-cup measuring cups A, B, and C.

Weigh each and record the empty weight.

Fill each of these three cups with hydrogenated fat. Pack well.

Weigh each filled cup.

Record the weight, and determine the weight of the fat as above.

Place the fat in a container provided by the teacher.

Record the answers to these questions

1. What, if any, variation did you find in the three weights of one cup of unsifted flour? Answer the same concerning the types of sifted flour, the brown sugar, and the fat. How did the volume of one-half cup milk vary in milliliters?
2. Which substance had the greatest variation in weight? Which the least? Suggest reasons for this.
3. Which is more accurate, weighing or measuring?
4. Why is measuring alright for ordinary cooking purposes but weighing necessary for research work?

Exercise 2: Canned vs. homemade

With so many mixes and prepared foods on the market it is of interest and value to know how these compare in quality and cost with the homemade products. The following exercise will give you an idea of how the foods researcher compares such products.

Materials per individual or pair

Thermostatically controlled oven
 Balance or scales
 Sifter
 Wax paper
 Measuring cups
 Measuring spoons
 200 ml. graduated cylinder
 Mixing bowl
 Mixing spoon or fork
 Rolling pin and dough board
 Embroidery hoop
 Biscuit cutter
 2 small cookie sheets
 2 serving dishes
 1 can commercially prepared biscuits

Recipe

Flour	1 1/3 cup	150 gm.	5.25 oz.
Fat	2 tablespoons	25 gm.	1.00 oz.
Milk	1/2 cup	118 ml.	
*Baking powder	1 1/2 teaspoons	6 gm.	.21 oz.
*Salt	1/4 teaspoon	1 gm.	.035 oz.

*In classroom experimental work small amounts such as these may be measured.

Directions

Have dry ingredients weighed and milk measured before beginning to mix.

Sift the baking powder with the flour.

Add the fat and salt. The fat may be combined with the flour with a pastry blender or by cutting in with two knives. Avoid mixing until the mixture looks oily and compact.

Form a cavity in the center of the flour mixture, pour the milk into this cavity and begin to stir.

Stirring may be done with a fork or a spoon. Stir thirty strokes. Form the mixture into a ball of dough and turn out onto a lightly floured dough board.

Knead the dough gently ten times.

Place an embroidery hoop over the dough. The hoop is used so that the biscuits will be the same thickness and the volume can be compared.

Roll the dough, then cut with biscuit cutter.

Procedures to be followed in this exercise

1. Make arrangements before the preparation is begun for scoring the products. The members of the class will be the scorers. You will judge your own biscuits and those of two other class members. In this way there will be three scorers for each set of products.

2. Turn on the oven to 450° F. and allow to preheat during preparation.

3. Prepare the above recipe.

4. Grease lightly two small cookie sheets.

5. Arrange the homemade biscuits on one sheet and the canned ones on the other. Write "canned" and "homemade" on very small pieces of paper and then place the slips under a biscuit of each type. This will prevent getting the biscuits mixed.

6. Bake biscuits for ten minutes. In experimental work the oven should not be opened until time to remove the product; however, you may take a quick peek near the end of ten minutes if you are not familiar with the oven you are using.

7. Label two serving dishes "A" and "B" while the biscuits are baking. Record in the data book which biscuits will be "A" and which "B". This information will be known only to you during the scoring. Set out a score sheet, napkin, and a glass of water for each scorer. The water will be used to rinse the mouth after scoring one biscuit and before starting to score the other. The scorers should not comment on the product while scoring. This is a must.

8. Remove the biscuits and allow them to cool ten minutes. Score the biscuits. Collect the score sheets and clean up.
9. Average the scores for each quality on the score sheets and record these averages.
10. Figure the cost per biscuit for each type.
11. Wrap a biscuit of each type and save it for the following laboratory. Repeat this exercise then and compare the biscuits for the two days. If your technique is good, the biscuits should be practically identical.

Record the answers to these questions

1. Which type of biscuit required the longer time to prepare?
2. Did some members of the class like one type better and some the other? What might have influenced this?
3. Were the results obtained over the two-day period the same? What could have caused any differences?
4. Which type of biscuit was more expensive per serving? Did you expect this? Why?
5. Under what circumstances would you advise the homemaker to use each type of biscuit?

Exercise 3: Nutrient retention in cooked food

The nutrients retained in a food after cooking are of great importance. Studies to determine the best cooking method for "palatability" or taste and nutrient retention are often done in food research laboratories. In this exercise you will learn one way in which this is done with vegetables. You will cook broccoli two ways and determine which method yields the greatest Vitamin C or "ascorbic acid" retention and most palatable product. Although you will not have the sensitive equipment with which to determine the exact amount of ascorbic acid present, you will be able to get a fair idea of the effect of various cooking conditions upon this vitamin.

Materials per pair or group of three

Balance

Waring blender (several groups may use one)

One 100 ml. graduated cylinder

2 covered 2-quart saucepans

2 strainers

2 serving dishes and 3 dishes and forks for individual scorers

1 stop watch, if available, or a clock with a second hand which can easily be seen

Two 250 ml. Erlenmeyer flasks

Two one-liter or quart glass containers

- 3 small beakers (250-400 ml.)
- 2 glass funnels and filter papers to fit
- 1 lb. fresh broccoli or two pint boxes of frozen broccoli

Note to the teacher

Following are directions for making up the solutions for this exercise. Enough should be made at one time for the entire class. All of these solutions except the starch may be made up during the laboratory period just prior to starting this exercise and stored in the refrigerator.

Glass containers are used for storage purposes. If available, glass stoppered bottles are best; if not available, fruit jars may be used provided the mouth is covered with saran wrap or wax paper before the lid is screwed on.

A gallon glass jug would be good for storing the large amount of metaphosphoric acid (HPO_3) solution.

Chemicals needed for solutions

Amounts given are enough for entire class except when stated otherwise.

- .6 gm. crystalline iodine
- 1.0-1.5 gm. potassium iodide
- 15.0 gm. crystalline metaphosphoric acid (HPO_3) per sample of broccoli tested
- 5.0 gm. water-soluble starch, not corn starch
- Distilled water in amounts called for below, if available; otherwise use tap water

Solutions

1. Iodine solution--enough for entire class; may be made up previously and stored in refrigerator. The iodine crystals will not go into solution unless the potassium iodide is present.

- a. Weigh into a small beaker .6 gm. crystalline iodine and 1.0-1.5 gm. potassium iodide crystals
- b. Add 5 ml. ethyl alcohol and stir with glass stirring rod until iodine dissolves
- c. Transfer to a large glass container and add 1000 ml. of water
- d. Cover well and store in refrigerator

2. Metaphosphoric acid (HPO_3)--enough to test one sample of broccoli; multiply by number of samples to be tested to obtain amount needed for entire class; may be made up previously and stored in refrigerator.

- a. Weigh 15 gm. of crystalline HPO_3 into a large beaker
- b. Dissolve in 500 ml. distilled or tap water, stirring often because it dissolves slowly
- c. Transfer to a large glass container, cover, store in refrigerator

3. Starch solution--enough for entire class; must be made up the same day used; cannot be stored overnight.

- a. Weigh 5 gm. water-soluble starch into a small beaker
- b. Add a small amount of water and make a paste
- c. Transfer paste to large pyrex beaker, add 500 ml. water
Part of this may be used to wash starch paste into large beaker
- d. Boil solution for 5 minutes, cool, set aside for later use

Procedures to be followed in this exercise

1. Arrange before beginning preparation for class members to score the products. One member of each pair will be busy with the ascorbic acid determination and will not be available to score.
2. Weigh, record empty weight, and label two bowls. Set aside for later use. Also, label two serving dishes for later scoring purposes. Use "A" and "B" for all labels.
3. Prepare broccoli for cooking. If both fresh and frozen are available, some groups may work on fresh and others on frozen; however, one group should not try to do both.
4. Weigh out two 300 gm. samples of broccoli and have ready to cook according to the following instructions:

Fresh Broccoli

"A"

Bring 150 ml. tap water to boil. Add 300 gm. broccoli. Return to boil on high heat, reduce to low heat and cook for 10 minutes, stirring at the end of 5 minutes. Cook covered.

"B"

Bring 300 ml. tap water to boil. Add 300 gm. broccoli. Return to boil on high heat, then reduce to low heat and cook for 30 minutes, stirring at the end of 10 and 20 minutes. Cook covered.

Frozen Broccoli: 1 pint box contains approximately 300 gm.

"A"

Bring 150 ml. tap water to boil. Add 300 gm. frozen broccoli. Return to boil on high heat, reduce to low heat and cook for 6 minutes, stirring at the end of 2 minutes. Cook covered.

"B"

Bring 300 ml. tap water to boil. Add 300 gm. frozen broccoli. Return to boil on high heat, reduce to low heat, and cook for 30 minutes, stirring at end of 10 and 20 minutes. Cook covered.

5. Begin preparation of broccoli "B" immediately upon coming to class. After this has cooked 15 minutes, the water for broccoli "A" should be placed on range to begin heating. By doing this both samples should be finished cooking at approximately the same time. Timing must be accurate. It is best to use a stop watch, if one is available.
6. Make preparations for scoring while the samples are cooking. Labeled serving dishes, individual dishes, forks, napkins, and glasses of water should be set out with score cards for the scorers.
7. Drain both the fresh and the frozen broccoli. Weigh 75 grams of sample "A" into previously labeled bowl "A" and 75 grams of sample "B" into bowl "B". This step should be done as quickly as possible.
8. After the 75 grams have been removed, place the remaining broccoli of each sample into the serving dishes so the scorers may begin. One member of your group should supervise and record scores as her responsibility.
9. Blend sample "A", then sample "B" as follows. Place a sample in the Waring blender. Add 200 ml. of HPO_3 solution immediately. Turn on the blender and blend for 4 minutes. Rinse well all equipment used for sample "A" before using for sample "B".
10. Pour each blended mixture into labeled glass-stoppered bottles or quart jars. Wash blender well with 200 more ml. of HPO_3 , and add this to the blended mixture. These mixtures, "A" and "B", are covered and stored in the refrigerator until the following laboratory period. If a quart jar is used rather than stoppered bottles, place saran wrap or wax paper over the mouth before screwing on the lid. Storage should not be longer than 24 hours if possible. The HPO_3 is used to keep the ascorbic acid from being lost during blending and storage.

Second period's work

11. The starch solution is made up according to previous instructions.
12. Clean a buret thoroughly, rinse and fill with the iodine solution made up previously.
13. Clean two glass funnels and line with filter paper. These funnels must be supported during the filtering process, either by filter racks or by having another person hold them.
14. Filtration process. Remove the blended broccoli samples from the refrigerator, stir well, and filter each into a labeled glass container--a beaker or a jar. Since the filtering process is very slow, it is not necessary that the entire sample be filtered

before starting to titrate. As soon as 30 ml. of filtrate (the solution which comes through the filter paper) are available, the titration process can be begun.

15. Preparation for the titration process. Place 30 ml. of the filtrate of each sample in labeled 250 ml. Erlenmeyer flasks.

16. Adjust the iodine solution in the buret so the bottom of the meniscus is level with the 10 ml. mark, or the top mark if a larger buret is used.



17. Empty two medicine droppers of the previously prepared starch solution into the contents of each Erlenmeyer flask.

18. Titration process. Titrate the filtrate in each flask with the iodine solution until the filtrate becomes blue in color. To do this, the stop-cock of the buret is opened and the iodine is allowed to drain into the filtrate very slowly. The filtrate is swirled constantly to insure proper mixing.

A piece of white paper placed under the flask will make the following color changes sharper and easier to see. When the iodine drops into the filtrate, a blue color will appear on the surface, then disappear as the filtrate is swirled. As the titration continues, the color of the filtrate will change from a very pale yellow-green to nearly colorless, then to blue throughout the solution. As the solution becomes nearly colorless, the areas of blue formed when the iodine drops into the filtrate will be larger and disappear more slowly when swirled. At this point the iodine flow should be slowed to drop-by-drop addition. When the blue color forms throughout the filtrate and does not disappear when swirled, the end point has been reached.

Titration is stopped immediately when the blue color does not disappear, and the number of milliliters of iodine used should be read from the buret and recorded. Approximately 8-10 ml. will be used for sample "A" filtrate and 4-6 ml. for "B". It is possible that sample "A" of the fresh broccoli will require more than 10 ml. of iodine to complete the titration. If this should be the case, the buret must be refilled when the 0 ml. mark is reached. Remove the flask from under the buret when refilling the buret.

If it is impossible to get a buret, the following substitution could be made. Fill a small beaker (100 ml. size) half full of the iodine solution. Weigh the beaker and iodine and record the weight. Drop iodine from this beaker into the flask containing sample filtrate and starch solution with a medicine dropper. When an end point is reached, weigh the beaker with the remaining iodine. Subtract this weight from the first one to determine the amount of iodine used.

19. Record the amount of iodine required to titrate each 30 ml. sample. If time permits, filter all of the blended sample and determine the entire amount of filtrate obtained from each sample by measuring it in a graduated cylinder. Remember to add 30 ml. to the number obtained for each sample since this much was removed for titration. From the figures you have, determine the amount of iodine solution that would have been required to titrate the entire filtrate of each sample. Record this.

Explanation of what is occurring during titration

Free iodine reacts with starch to form a blue color. However, this blue color does not appear when ascorbic acid is present in the solution because the iodine reacts with ascorbic acid and is not free to react with the starch. When all of the ascorbic acid present has reacted with iodine, the next drop of iodine is available to react with the starch and form the usual blue color. Therefore, the iodine used up to the point when the blue color appears is an indication of the amount of ascorbic acid present.

Think about and record the answers to these questions

1. Which sample of broccoli received the highest taste score?
2. Which sample of broccoli retained the most ascorbic acid?
3. What statements can you make concerning the effects of cooking time and amount of water on ascorbic acid in cooked broccoli?
4. How would you tell a homemaker to prepare similar vegetables for the table?

Trying your hand at research

Select a problem that you would like to solve in the foods laboratory. As you choose and work, keep in mind the requirements of research. Write up the complete problem when you have finished. Good luck, and good experimenting!

Appendix

Sample Data Page for Exercise 1: Measuring and Weighing

Date _____

Name _____

Weight of 1 cup of unsifted all purpose flour:

	Cup A	Cup B	Cup C
Weight of cup filled with flour	213.5 gm.	272.5 gm.	250.0 gm.
Weight of empty cup	<u>103.0 gm.</u>	<u>120.5 gm.</u>	<u>115.0 gm.</u>
Weight of flour	110.5 gm.	152.0 gm.	135.0 gm.

Score Card for Exercise 2: Canned vs. Homemade (Baking Powder Biscuits)

Date_____

Scorer's Name_____

	Score	Reasons for low scoring:
SHAPE. 5 points Evenly round Free from bulges on sides and top		SHAPE Not evenly round _____ Bulges on top _____ Bulges on sides _____
COLOR. 5 points Uniform brown on outside Creamy white inside Free from yellow and brown spots		COLOR Brown spots _____ Yellow spots _____ Undesirable _____
VOLUME 5 points Almost twice volume of unbaked biscuit		VOLUME Small _____ Too large _____
GRAIN. 5 points Flaky, peeling off in thin strips Fine, even cells		GRAIN Compact _____ Coarse cells _____ Uneven cells _____
FLAVOR 5 points Blended flavor of well- baked ingredients		FLAVOR Undesirable flavor _____ Off-flavor _____ Aftertaste _____

- General Rating: 5--very good
4--good
3--fair
2--poor
1--very poor

If a low score is given, check the reason or reasons in the column to the right.

Score Card for Exercise 3: Evaluation of Vegetables

Date _____

Scorer's Name _____

Product _____

For each sample, rate the qualities listed by placing in the proper column the numerical score that best applies.

Characteristics	Check	Reasons or Other Comments
APPEARANCE 3. Attractive, Intact 2. Unattractive 1. Wrinkled, Broken, or Sloughing		
COLOR 3. Natural, Bright, Fresh 2. Slightly Dull, Faded, or Uneven 1. Unattractive, Off-Color		
TEXTURE 3. Firm, Tender 2. Moderately Tough or Moderately Mushy 1. Mushy, or Tough and Fibrous		
FLAVOR 3. Pleasing, Fresh 2. Moderately Weak or Moderately Strong 1. Unpleasant, Off-Flavor		
GENERAL ACCEPTABILITY 3. Very Good 2. Fair 1. Very Poor		
Total Score		

Some of the More Common Subjective Tests
for Scoring Quality of Food

These tests require a panel of tasters or scorers. The number on the panel varies, but 4 to 8 is the usual panel size. The larger research laboratories often have trained members for their taste panels. This is neither necessary nor possible on the high school level. It is advisable for the high school student to use scoring tests since the results are easily assembled, averaged, and interpreted. The following explanations are adapted from Lowe (6).

Scoring tests

This is the most frequently used of the subjective tests. The scorer is given a score sheet to use in evaluating the product. The scorer then gives a numerical score for each quality of the product listed. For example the scorer might be asked to give each of the three qualities flavor, texture, and color a score from one to five, five being high. After observation and tasting each of these qualities would be so scored.

It is the duty of the experimenter to make out the score sheet. Sample sheets have been included in the Appendix. Generally a score range from 1 to 5 is considered best. In making out the score sheet, care must be taken to give the proper emphasis to the various qualities. For example, a good score card would not have a possible high of 5 for texture and 2 for flavor since flavor is equal to or more important than texture.

Ranking test

The scorer ranks the samples either in decreasing or increasing order of some characteristic. The samples may be ranked as to over-all quality, or characteristics may be considered separately as texture, tenderness, or flavor.

Triangle test

The scorer is given three samples. Two are identical in all but one respect. The scorer is to select the different sample. This test is often used to test the ability of a scorer.

Paired samples

The scorer is given two products which are identical in all but one respect. The scorer is to determine which is better in this one respect. For instance, the scorer might receive two pieces of meat identical in every way except in tenderness and be asked to determine which is more tender.

Dilution test

The scorer is given several samples containing varying amounts of a certain ingredient but identical in all other respects. It is the duty of the scorer to attempt to place the samples in order as to decreasing or increasing amounts of the ingredient. An example of this would be samples of whole milk which are diluted with varying amounts of reconstituted non-fat dried milk. The scorer would be asked to place these in order from least amount of non-fat dried milk used to most used.

Examples of Objective Tests for Certain Characteristics of FoodInk Imprints for determining grain of breads and cakes, modified from Child and Purdy (3)

Ink imprints may be made of breads and cakes. It is better to freeze cakes in order to secure a distinct print. Imprints of breads can be made satisfactorily without freezing.

Prepare a mixture of equal parts mimeograph ink, glycerine and water. The water may not be necessary if the ink is thin. Cut a piece of blotting paper slightly larger than the surface of the product of which a print is to be made. Allow the blotter to absorb all of the ink mixture possible by working ink into the blotter with a soft brush. Place this, ink side up, on a board and by means of thumb tacks stretch tightly a piece of thin, smooth, soft, plain-textured cloth over the ink surface. Excess ink should be avoided for this would result in uneven prints.

Press the surface of the product to be printed against the inked blotter and press lightly over the entire product. Carefully place the inked surface of the product down on newsprint and press gently so that an imprint will be made on the newsprint. Remove the product carefully so the imprint will not be smeared. Blot the print carefully and allow to dry.

Seed Displacement for determining volume of biscuits, Modified from Binning and Geddes (2)

1. Determine the volume of a small pan by filling it with rape seed or flax seed from a paper-lined funnel. Level off once. Take average of several readings. Empty seeds from pan.
2. Place at least five biscuits in the pan used in step one. Fill with seeds by filling the funnel completely with seeds and allowing all to run through, then adding a definite amount, if necessary, to complete filling of pan. Level off once.
3. Pour seeds from pan into a second paper-lined funnel which is supported by a metal graduate. Remove biscuits from pan.
4. Take a careful reading of height of seeds in metal cylinder.
5. Subtract reading obtained in step 4 from reading obtained in step 1 to obtain biscuit volume. Divide by number of biscuits to get average volume of biscuits.

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Outcomes to be Expected

At this point it may be well for us to take another look at what we have been trying to do. The activities for classroom use which have been described in this issue imply a very different approach from that demonstrated by laboratory periods devoted to preparation of single foods, which are then hastily eaten and evaluated superficially. Certainly we do not want to eliminate all consideration of family meals, or of the aesthetic and social values related to the service of food in the home. However, work with food is a "natural" for helping students gain an understanding of the way in which basic scientific principles operate in their daily lives. And we need to keep our purpose clearly in mind:

We are aiming to develop the ability to think--
clearly,
critically,
analytically.

On pp. 267-268 of the book, Education for Effective Thinking, Burton, Kimball and Wing state that one may be said to think effectively to the degree that he behaves in any of the following ways:

1. Recognizes and defines problems, identifies issues
2. Formulates, extends, and verifies feasible hypotheses
3. Collects, selects, or selectively recalls relevant data, differentiates between reliable and unreliable sources, between factual and non-factual sources
4. Recognizes reliable experiments
5. Draws reasonable inferences regarding cause and effect, logical implication, valid generalization, reliable prediction, and accurate description
6. Recognizes and evaluates implicit assumptions, uses postulational arguments logically, recognizes relevant value systems and uses them reasonably
7. Recognizes errors and fallacies
8. Comes to decisions or conclusions, tests them, applies them to pertinent situations
9. Applies semantic principles to language used

No one does these things automatically! Perhaps we need to reverse the familiar platitude about good example. Effective thinking is taught, not caught! And the skills which go to make up effective thinking have to be taught in small doses, too, with much repetition and much practice, especially for the slower learner. The less able child, incidentally, needs education for thinking just as much as does the better student.

Examples of learnings

Remember the boiling water?

What skills of effective thinking can students be learning as they carry out this "simple" activity?

To begin with, they are starting to make careful, accurate observations, and as a result to see many details which have gone unnoticed before. Using Burton, Kimball and Wing's terminology, we may say that they are collecting relevant data by means of their own sensory powers, and increasing the acuity of the senses in the process.

As they attempt to describe the stages of boiling water, they are learning to use words accurately and to choose the most suitable words to make the phenomena observed clear to another.

Further practice in all of these skills would be important. Observing the boiling of a sugar sirup might be an interesting variation. Could the students learn to distinguish between plain water and a sugar-water solution merely by watching each boil?

It will be helpful here if the teacher is careful about using correct terminology. For example, we often use the words "solution" and "mixture" in ways that are not chemically accurate.

As students note differences in the time required for boiling water at different burner settings, or in saucepans of different sizes and materials, they can be taught to draw reasonable inferences regarding cause and effect. Identification of the variables involved, and of procedures used to control them, could help these future consumers of research begin to develop some criteria for recognizing reliable experiments.

It is only a step further to helping them formulate some reasonable hypotheses, based on the observed behavior of the water under different conditions. Simple experiments to verify these hypotheses might be devised. Some limitations to the possibility of individual hypothesis verification could also be pointed out. For example, it might be somewhat difficult for an individual to verify the hypotheses:

Any non-volatile substance dissolved in water will raise the boiling point of water.

A discussion of the basis for accepting this as a working hypothesis could lead to a consideration of the role of the word of authorities in helping us to arrive at certain conclusions. One cannot try out everything for himself! The importance of distinguishing between reliable and unreliable sources of information should be brought out at this point.

Another caution--

We want to avoid giving students the impression that a hypothesis is "proved" once and for all. "Testing" is a more accurate word, implying that further information or newly developed methods may suggest a re-opening of the problem, further experimentation, and the acceptance of a revised hypothesis. As an aid in developing this habit of thinking, students can be encouraged to look for examples of exceptions, or apparent exceptions, to generalizations which have been formulated in class.

Repetition for thorough learning

The outcomes described in the previous section will not become "standard procedure" for most students without much repetition. The practice of the desired behaviors in new contexts will not only reinforce it but will serve to maintain interest.

Many of the experiments suggested earlier could be analyzed in the same way as the work with the boiling water. All of them can be used to help students search out cause and effect relationships.

* Browning starch apparently changes its thickening power.

- * Heating water influences the amount of sugar which will dissolve in it.
- * Lemon juice does something to prevent the darkening of an apple exposed to the air.

Our aim is to encourage students to say--about these reactions, and about other everyday phenomena which they observe:

"I wonder why."

We hope further that they will be able to make reasonable inferences, and to use these as a guide to their own behavior. A class was once given a copy of a scone recipe from which the amount of shortening had accidentally been omitted. One girl came back the next day to report this to the teacher. "I started to make these last night," she said, "and I noticed that the fat was missing. My mother said I had better follow the recipe! But I knew it must be wrong."

She had also known how much shortening to add, since her class had been taught what proportions of fat and flour were used to produce baked products of various textures. Her scones were successful and she was very pleased with herself. A good thinker in the making!

The Techniques of Scientific Investigation

Senior high school girls who have worked through the unit in experimental cookery should have learned many new skills. Notice that in this unit emphasis has been placed on the careful, detailed planning which goes into research work. It is important that each girl have clearly in mind what her objectives are, before gathering data. The ability of the girl will have to be considered. Even slow students can learn to do experimental work. They cannot, however, write their own directions for doing it! The teacher must provide these, as well as emotional support, close observation, criticism of work habits and techniques and a great deal of aid in drawing warranted conclusions. On the other hand, the talented student needs encouragement to help her in selecting a challenging problem, thinking through her objectives, deciding on procedures, carrying out her plan, recording the data accurately, and finally, in evaluating the degree of confidence which can be placed in her conclusions, and in applying them to new situations.

Exactness is necessary in scientific laboratories. The importance of accuracy, and even of neatness, has sometimes been overlooked in our past work. How often have we accepted messy and carelessly done papers! Clear handwriting or printing and legible, uniformly sized numerals contribute to ease in understanding a research report.

Skill in manipulative techniques is also necessary. Students are asked to compare homemade and package mix products. An important point sometimes overlooked, however, is that the homemade product of an unskilled person, who uses careless techniques, is not likely to be of a high quality. In

order to make a valid test--to measure what one is presumed to be measuring--the student must practice until she is able to make a high quality product. Even the preparation of a mix requires some skill on the part of the cook. And, of course, either type of product can be spoiled by factors unrelated to the mixing, such as pan size and oven temperature. A student who realizes that an important purpose of research is to develop accurate facts and/or generalized statements to guide future actions, should see the need of eventually acquiring techniques which are good enough so that she can achieve dependable evidence. We may hope that she will then be ready to spend the necessary time and effort to develop these skills.

Relating experimental work to basic principles

One way of unifying the work in advanced classes might be to use several demonstrations or experiments which related to the same basic principle of chemistry or physics. The students would then be able to see how a single generalization or principle can be applicable to a number of different situations. Various members of the class could assume the responsibility for carrying out the different demonstrations and showing the results to the group. To reinforce the learning, it would be important to have, at the completion of the work, a discussion directed toward the statement of the principle involved and an exploration of its application to food preparation.

For example, we might consider the basic biological process of osmosis, which influences and serves as an explanation for many things which we do in our work with foods.

Students who have had chemistry should have learned the theoretical basis for this principle. The necessary subject matter content may be summarized as follows:

1. A true solution is a mixture in which a substance has been reduced to scattered molecules. The molecules of a dissolved substance do not reunite unless some change occurs, such as heating or evaporation.
2. In a true solution, as for example, a sugar sirup, the water molecules and sugar molecules, which are constantly moving, distribute themselves evenly with respect to one another, and rebound both from each other and from the sides of the container. Considerable pressure results from these impacts within and throughout the solution. This inner-solution pressure is called osmotic pressure.
3. Osmotic pressure depends on and is directly proportional to, the concentration of dispersed particles within the solution. Therefore the greater the amount of sugar in a sugar sirup, the greater the osmotic pressure within it. Osmotic pressure in salt solutions is greater than in glucose solutions of equal concentration because salt ionizes, or breaks up into more particles.
4. Whenever two solutions of different concentrations, e.g. of different osmotic pressures, are separated by a membrane

which is permeable to both solvent and solute:

- a. more solute molecules will pass through the membrane from the solution of higher osmotic pressure, where more solute particles hit against the membrane, than will pass through from the opposite direction.
- b. more solvent (water) molecules will pass from the solution of lower osmotic pressure, where the greater number of water molecules hit the membrane, than will pass through from the opposite direction.

Thus the more concentrated solution will decrease in concentration and increase in volume. The less concentrated solution will increase in concentration and decrease in volume. This attempt to equalize the concentration of the two solutions is the phenomenon called osmosis.

5. Osmosis occurs whenever two solutions of different concentrations are separated by a permeable membrane. Although diffusion of particles takes place in both directions, more solute particles move from the region of greatest concentration, and therefore the concentration of both solutions tends to be equalized.

Suggested ways to illustrate the principle

- * Take two pieces of soft, ripe fruit such as a plum or a pear. Place one in a concentrated sugar solution, the other in plain water. Allow to stand for several hours or overnight. Do the same with dried prunes or apricots. Compare the flavor and texture of the fruit, and the flavor and appearance of the soaking liquid.
- * Experiment with cooking fresh and dried fruits in plain water, in different concentrations of sirup and at gentle and rapid rates of boiling, keeping constant other variables such as cooking time, size of pan, amount of liquid, and the weight and size of fruit.
- * Pare and slice a fresh cucumber. Subject slices to different treatments such as
 - a. leaving on a dish at room temperature
 - b. soaking in strong salt solution for twenty minutes
 - c. soaking in strong salt solution for forty minutes
 - d. soaking in fresh water for forty minutes
 - e. soaking in strong salt solution for twenty minutes, then in fresh water for forty minutes
- * Dry foods such as apples or pears. Compare keeping qualities with that of fresh fruit.
- * Prepare preserves, noting methods used to keep the pieces of fruit whole.
- * Prepare pickles with brine.
- * Prepare sauerkraut.

Suggested explanations in terms of the principle

1. If the concentration of sugar in the solution is greater than the concentration of materials within the plant cells, more sugar will pass into the fruit from the sugar solution than will pass from the fruit juices into the sugar solution. For the water, however, the opposite will be true. Therefore the fruit in a concentrated sugar solution shrivels and becomes sweeter. The sirup becomes less sweet.
2. More sugar diffuses through the skin from inside the fruit to the outside than vice versa, while more water diffuses from the outside into the dried fruit or vegetable than in the opposite direction. The surrounding water gains in sweetness as the fruit becomes plumper. If sugar solution is used fruit will soften but remain more wrinkled. The two-way diffusion of water and soluble salts and sugars is speeded up by gentle heating. When actual cooking starts, however, the permeable membranes are softened and changed by heat.
3. Water is withdrawn from the tissues of the cucumber when it is placed in a strong salt solution; therefore, it becomes limp. The water is replaced when the salt solution is replaced by fresh water and the slice becomes firmer again. Salt molecules diffuse also, but not as rapidly as those of the water.
4. Microorganisms are destroyed by drying. When tissues are fresh, there is an equilibrium between the osmotic pressure of the solutions within the cells of bacteria, yeasts and molds, and the pressure outside in the food which contains these organisms. When water is evaporated from the food the concentration of salts and sugars is increased, the osmosis equilibrium is disturbed and water is withdrawn from the protoplasm of the microorganisms more rapidly than it is restored. As a result, they are killed. The dryness prevents spores from germinating, as well as providing an unfavorable situation for bacterial life.
5. In order to keep cooked fruit in whole pieces, it may be placed in a thin sugar sirup first and boiled very gently. The sirup will have a slight strengthening action upon the fruit tissue cell walls. The concentration of the sirup may be gradually increased to produce a product of the desired sweetness.
6. Any bacterium is composed in part of a true solution of salts and other substances enclosed in a permeable membrane. When it is surrounded by brine, more water molecules will diffuse from inside the bacterial cell to the outer solution than in the reverse direction. Thus the bacterium becomes "dehydrated." It is either killed or its activity is greatly limited. More salt molecules diffuse into the bacterium than from the inside to the outer solution, and this upsets the cell chemistry, also.
7. Sauerkraut makes use of salt in a low concentration together with acids. The small amount of salt adds flavor to the food, but the dehydration it produces in microorganisms is not enough to destroy them. The osmosis disturbance is between the particles of food themselves and the surrounding salt solution. The difference in osmotic pressure causes some water and sugar to

be withdrawn from the foods into the salt solution. Bacteria feed upon this sugar and acids are formed. Eventually, the acid concentration is too great for bacterial activity to continue.

Two helpful teacher references

Foods and Principles of Cookery, by Natalie K. Fitch and Charlotte A. Francis. Prentice-Hall, Englewood Cliffs, New Jersey. 1948.

Food Preparation--Principles and Procedures (a laboratory manual), by Elizabeth Sutherland and P. Mabel Nelson. Wm. C. Brown Co., Inc., Dubuque, Iowa.

This is the last issue of the Illinois Teacher of Home Economics edited by Professor Letitia Walsh before her retirement from the University of Illinois. The idea for the Illinois Teacher originated with Professor Walsh. She devoted many hours of dedicated service to its development. Evidence that it met a felt need in the field of Home Economics Education may be seen in the fact that its circulation increased from two hundred to approximately three thousand over its first five years of publication.

At this time, the Home Economics Education staff of the University of Illinois wishes to honor Professor Walsh and to express appreciation for all of her fine work on the Illinois Teacher of Home Economics.

Publication of the Illinois Teacher of Home Economics is being continued under the guidance of a new editorial board. The remaining five issues for 1962-63 will reach you during the winter and spring months. Plans are also under way for continued publication in 1963-64.

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ILLINOIS TEACHER OF HOME ECONOMICS

CONSUMER BUYING: CONTENT FOR STIMULATING THINKING

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One goal of the President's message was realized when Congress passed a law requiring that new television sets provide for reception of ultra high frequency broadcasts. Since many educational stations are UHF stations, this means that more viewers will be able to receive their broadcasts.

A few Government agencies have already complied with the President's order to designate a special assistant in the office of the agency's head "to advise and assist him in assuring adequate and effective attention to consumer interests in the work of the agency, to act as liaison with consumer and related organizations, and to place increased emphasis on preparing and making available pertinent research findings for consumers in clear and usable form."¹

Some states have a Consumer Counsel to the Governor or other such officer, and some cities have organized bodies to serve as Consumer Councils. Private organizations are working, too, in some quarters. Perhaps in the not-too-distant future the Voice of the Consumer will be heard loud and strong. Home economists are among those who can help to speed the day.

CHOICES IN AN AFFLUENT SOCIETY

The society in which Americans live today has been described as affluent. We are wealthy as compared with our ancestors or with most of our contemporaries in other parts of the world. This affluence has removed or alleviated many problems, of course, but it has also created some, as J.K. Galbraith has eloquently pointed out.²

When man is no longer hungry, ill-clad, and ill-housed, he has choices to make that those in poverty do not face. He has to solve new problems, think new thoughts. Galbraith suggests that some of our thoughts be directed to creating what he calls a "social balance."

As our capitalistic, free enterprise economy developed, we seemed to emphasize those things which could be produced by and sold to individuals. Those things falling outside this type of private enterprise were left to some level of government or left undone. Hence, we now find ourselves with a "wealth of goods and a dearth of services," as O'Brien³ puts it, from which to make our choices. We refer to public services--those that cannot be purchased by an individual consumer.

Why is it that we can choose electric toothbrushes, gold-plated fixtures for our plumbing, jeweled pliers to open our nail polish bottles, a foot of golden nail for no purpose at all, or a beer can opener with attached umbrella to keep the spray out of our face, but we cannot choose safe highways, unpolluted waterways, clean roadside parks, better schools, adequately staffed mental hospitals, uncrowded recreational facilities open to all, welfare services to eliminate juvenile delinquency, and libraries to cover the nation? Do we really prefer pink Cadillacs to adequate medical care? Would we rather pay the medical

quacks a billion dollars a year than to support adequately the government agency designed to protect us from them?

In order to obtain the "social balance," i.e., a more reasonable distribution of our wealth between the goods and the public services, some changes must be made. Thinking about such changes is painful to many people; seeing some actually wrought might bring heart failure! But some have thought. And some, like Galbraith, have made suggestions which the rest of us might well contemplate. It is not enough that we learn to manage our personal finances. We must also assume our citizen role and participate in decisions which can redress the balance. If Madison Avenue must continue to create in us a demand for goods we may not really want, perhaps some of its firms might be given the assignment of helping us to see the need for these services, too!

Consumers can demand to live in a society with less crime, less slums, and less billboard-blighted landscape, with more medical research, more educated people, and purer air to breathe. But they must be willing to pay for it, and this usually means taxes.

What does it mean when a school board in a wealthy community turns down a proposal for a modest adult education program with the comment, "We can't afford it"? Or when poor children in one section of town walk home at noon through the snow without proper clothing and eat a peanut butter sandwich before walking back to school again because the school cannot afford to provide a lunch program? The money is there. It must mean that the people prefer to spend it otherwise. For what?

What does all of this have to do with home economics teaching? We would certainly not suggest that all home economics teachers would agree on a given set of values with which they would indoctrinate their students and bring about a sudden Utopia. But home economics teaching does include consumer education. How many units or courses in consumer buying and consumer economics include a consideration of this problem? How many students study about what their tax money buys or could buy along with their study of better buymanship of goods? How many are led to think about what public services contribute to a standard or level of living?

In a high school consumer education class which recognizes this problem of social imbalance we might find, in addition to the usual study of family income allocation, such activities as these going on:

- * a student surveys the community recreation facilities and reports to the class;
- * another interviews a staff member at the welfare department to find out how its services would be expanded if funds were increased;
- * still another investigates the difference in accident rates on two-way and divided highways.
- * Committees of interested students make inquiries regarding the educational level of people and such factors as crime rate, income level, and divorce rate and
- * investigate the educational level in their own community and the facilities and methods for raising it, especially for adults;

- * or they study the President's Medicare proposal or one of the bills recently introduced to protect consumers or
- * they become acquainted with the work of some consumer protection agency in the Government.
- * Some might even be interested in learning about various types of tax systems and how these may be related to the problem.
- * One might dare to write "Our Taxes Should Be Increased" for the school paper and suggest how the level of living could be improved with additional public services.
- * Panelists might discuss the subject in class or club.

Other ideas will occur to the teacher and the class. It might be that the teacher herself has never had reason to think about the problem. For her, as well as for the students, recommended reading would include Galbraith's The Affluent Society and O'Brien's article as a beginning. If teacher and students pursue the study together, it could be even more exciting than some subjects in which the teacher already appears to know all the answers. And all may emerge as more enlightened citizens and voters--or future citizens and voters. Here lies the challenge!

¹ New York Times, July 15, 1962.

² J.K. Galbraith, The Affluent Society, Boston: Houghton Mifflin Company, 1958.

³ "The Consumer in an Affluent Society," by Carol B. O'Brien, in Journal of Home Economics, February 1961, p. 79.

CAVEAT EMPTOR!
(Let the Buyer Beware)

Marjorie Savage

Authorities recognize the importance of focusing attention on the individual family involved in the process of intelligent choice-making. Each family will have different goals and values to serve as a guide for making choices.

In an address entitled "In the Interest of All the People as Consumers," Reuter¹ makes these statements concerning consumer problems:

The fundamental consumer problem is for the family to establish consciously a set of values on which it bases its total choice of goods and services and the use of its time. No family can reasonably think of its food budget as an isolated factor, or whether it should move into a larger house without fitting such decision into the over-all desired pattern.

Other authorities stress the importance of basic factors, such as limited resources and unlimited human wants, when dealing with problems involved in choice-making.

According to Woods,² the major factors which determine the choices that are made in the market place include the personality of the purchaser and the character of the product. Important differences in consumer behavior are stressed in the article entitled "Psychological Dimensions of Consumer Decision." Woods describes the market for consumer products as composed of the following types of individuals:

- 1) A habit-determined group of brand loyal consumers, who tend to be satisfied with the last purchased product or brand.
- 2) A cognitive group of consumers, sensitive to rational claims and only conditionally brand loyal.
- 3) A price-cognitive group of consumers, who principally decide on the basis of price or economy comparisons.
- 4) An impulse group of consumers, who buy on the basis of physical appeal and are relatively insensitive to brand name.
- 5) A group of "emotional" reactors, who tend to be responsive to what products symbolize and who are heavily swayed by "images."
- 6) A group of new consumers, not yet stabilized with respect to the psychological dimensions of consumer behavior.

In speaking of the differences in demand character of the product, Woods states that consumers become more ego-involved with some products

than with others. For example, a product such as a car, may bring about emotional involvement on the part of the consumer or promote irrational behavior, whereas cereal products would not have the same demand character.

The following sections describe areas of concern to the consumer, such as labelling, packaging, and weights and measures. Examples are given of each problem with respect to particular products and situations.

Labelling

The Federal Food and Drug Administration, an agency of the Department of Health, Education, and Welfare administers the Food, Drug, and Cosmetic Act (1938), which replaced the original Federal Pure Food and Drug Act (1906). In a recent address entitled, "An Appraisal of Consumer Protection," Dr. Robert Lampman³ made these statements concerning the original act:

The Pure Food and Drug Act of 1906 marked another important departure in the field of consumer protection. Not only did it take the federal government into the elimination of hazards to health, it also introduced new responsibility for truthful and orderly marketing, putting emphasis upon accuracy in labelling. This act, along with the Sherman Act and the Interstate Commerce Act, may be said to provide the basic framework for the American system of governmental protection of the consumer.

Even though there are limitations, such as lack of funds and personnel, the Food and Drug Administration plays a vital role in protecting the welfare of consumers.

The bulletin entitled Read the Label, FDA publication No. 3, published by the U.S. Department of Health, Education, and Welfare, Food and Drug Administration gives interesting examples concerning the labelling of foods, drugs, devices, and cosmetics. It is available from the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C. at 20¢. Cartoons and other illustrations included can be used under the opaque projector. Important principles concerning labelling also appear in this bulletin.

What is a good label?

Wilson and Eyster⁴ define a label as "a written statement attached to an article or a commodity describing its essential characteristics. Standards and grades, as well as other information of importance to consumers, may be indicated on the label."

If a consumer becomes familiar with standards and grades, and other characteristics of goods, he will be in a better position to make an intelligent choice. Authorities in the consumer education field usually suggest that an ideal tag or label should contain as follows:

The name of the manufacturer or sponsor of the product
 What the product is made of and possibly how it is made
 Results of laboratory tests in simple terms which indicate
 the service you can expect
 Directions for use
 How to care for the product

Reliable sources stress the importance of the consumer buying Underwriters Laboratory "U-L" approved cords, sockets, plugs, and switches. A stamp or sticker is used to identify approved materials. Electrical appliances have the U-L seal stamped on the nameplate. It is important for the consumer to realize that the U-L label may be present on part of the appliance, such as the cord, and not apply to the appliance. The Underwriters' Laboratories, a nonprofit organization, sponsored by a group of insurance companies, makes tests for the manufacturer in order to determine whether samples meet U-L Standards for safety. In addition, spot checks are made of factories. Although there may be limitations resulting from a lack of quality control in some instances, the Underwriters' Laboratories program has resulted in important benefits for the consumer.

The film "Album of Public Safety," produced by Underwriters' Laboratories shows the kind and method of testing utilized for particular products. In this film, the student can see rigid testing in action.

Inconspicuous Labelling

In a recent address, K.L. Milstead,⁵ Deputy Director of the Bureau of Enforcement, Food and Drug Administration, stated:

It is the intent of the Federal Law that the information to appear on the labels of food, appear conspicuously so the purchaser and consumer can readily locate it and easily read it at the point of purchase as well as when he gets home. We can say categorically that the labels for foods neither comply with the letter nor the spirit of the law.

Based on our recent surveys, we suggest that what is needed is an entirely new approach on the part of label designers with emphasis on simplicity and readability rather than to expect consumers to carry a magnifying glass with them to the grocery store.

As a result of seizures of food products by the Food and Drug Administration, Deputy Director Milstead reported that violations fell in the following categories:

- 1) The food was packed in transparent bags with required information appearing against the background on the product itself in printing that was the same color of the product.
- 2) The type size of required information, or portions of it (such

as the numerical fraction in the quantity of contents statement) was so small that it could be read only with difficulty.

- 3) The required information was printed in a color such as black on dark green, and although the background was of uniform color, there was essentially no contrast.
- 4) The required information appeared on mottled or multicolored background in such a way that parts of it were essentially illegible.
- 5) The required information appeared on paper that was so highly reflected that it could be read only at one certain angle in good light.
- 6) The required information appeared on a side panel in the same size, color, and style of type as a great deal of other non-required wording such as recipes, etc., so that it was well camouflaged and therefore inconspicuous.
- 7) The required information was partially or wholly obscured, such as in the case of the foil bottom portion of a carton that was folded over a portion of the carton lid so that it covered required information, or a "free" extra portion of the food was attached to the front of a promotional package concealing required wording on the original package, or candy bars packed in a sealed "six-pack" with opaque cardboard back so that required information on the back of the labels for individual bars could not be seen before removing the outside wrapper.

Misleading Labels

Confusing adjectives include the following: "jumbo quart," "imperial quart," "regular," "giant," "king size." With the large size package, the buyer may assume that there is a price reduction. However, research points to the fact that the unit (per ounce) price in some instances may be exactly the same for all sizes in the line or even higher for the bigger package.

Examples of false and misleading claims for foods are as follows:

"Oyster Stew" bearing claims for promoting mental and physical vigor

"Butter Cake" containing no butter

Frozen orange juice concentrates which claim that a 6 oz. can = 12 fresh oranges in juice content

Vitamin-mineral preparations and vegetable oils as a painless method of losing weight

Peas, labelled "Early June Peas," prepared from soaked dried peas

Honey and vinegar, and combinations of the two, as a cure for treatment of serious diseases

Learning experiences to develop understandings about labelling:

1. Teacher prepares exhibits of labels contributed by the teenagers in her class. Girls bring in garments on which these labels were found. Students work in groups and suggest ways for improving clothing labels. Students are encouraged to find out what legislation makes possible particular terms that are included on the label.

2. Following discussion and reading with respect to the need for improved labelling, students make specific recommendations for improvement of labels. Students look up the meaning of terms such as soap, detergent, low-sudsing, etc. They report their findings to the class, review the way in which terms are used on particular labels, and their meaning with respect to garment care. The teacher relates the idea of labels to garment care when she brings to class a variety of packaged laundry supplies. Students evaluate the information found on a number of products to determine what types of information on the label might be helpful to a consumer.

3. Teacher presents this case situation:

Jane says that she can buy a private brand of aspirin at quite a reduction in price as compared with nationally advertised brands. The clerk tells Jane that U.S.P. on the label represents a standard which can serve as a guide to quality in the lower-priced product.

Investigate: Why is the abbreviation U.S.P. on the label helpful to the consumer?

4. The teacher assembles a selection of the same food in several forms, such as canned, fresh, and frozen. Class members have asked questions concerning which is the best buy for particular foods. The class evaluates the label on each product and records information concerning net weight, servings, etc. After opening canned and packaged food, comparisons are made with respect to price, quality, net weight, etc.

The Package: The Silent Salesman

The Food and Drug Administration has experienced difficulty in the enforcing of sections of the 1938 Food and Drug Act, which apply to deceptive packaging. Limitations in Federal legislation with respect to packaging as stated by Consumer Reports,⁹ in the July, 1962, issue include the following:

No provisions exist to control the recently burgeoning practice of 'packaging to price,' as the manufacturers put it. This is the practice of dropping the quantity in a package while keeping the size and price of the package the same....There are no provisions for establishing basic standards for packaging to eliminate confusing sizes that make price comparisons between competing brands almost impossible.

Authorities point to the lack of an exact definition for a slack-filled package as one of the principal obstacles to court action favorable to the government when packaging problems arise.

Federal laws dealing with packaging and weights and measures omit many kinds of packaged items such as: paper products, detergents, soap, household cleaners, bleaches, fabric softeners, etc.

Senator Philip Hart of Michigan, who has given much time and study to the matter of packaging and its cost, estimated the cost of packaging for household items to be \$10 million dollars a year.⁶

In a speech entitled, "Everyday Buying Problems" Mrs. Helen Ewing Nelson, Consumer Counsel to Governor Brown, State of California, states that conservative figures indicate the following:⁷

Out of a \$20 bill spent at the supermarket today, from \$1.50 to \$2.00 probably goes for the packages-around 10 percent. For some food items the average is even higher. The average family today pays about \$190 a year for the packages they carry home...about \$16 a month for containers--items which can't be eaten, can't be drunk, can't be used to clean or wash with, can't be used for anything except to stuff the garbage can.

Mrs. Nelson also mentions Vance Packard's book, The Hidden Persuaders, in which conversation between a package designer and his clients emphasizes the need of an attractive carton that hypnotizes the consumer.

This statement brings to mind the difficulty of exercising rational choice in the market place when techniques of psychology are employed to confuse the use of rational judgment.

Built-in Falsity in the Container or Package

Package materials may create a favorable impression; for example, containers may be designed to appear as large as possible in relation to actual content.

Examples of packaging for volume include:

cardboard boxes with excessive volume, yet a slack-filled package.

indented bottoms of jars

glass bottles with thick walls

partly filled packages

Premium offers of Promotion Devices

The consumer experiences considerable difficulty in comparing prices of different brands of a particular product. It is true that she may use a slide rule and convert cost of competing brands into price per unit, thereby having a basis for comparison. But the varieties of premium offers make a true comparison impossible!

One offer makes possible a rosebush for thirty-five cents provided the consumer also mails the wrapper on the package. With another brand she may obtain a dog food dish for three wrappers and fifty cents!

Consumers need to be wary of premium offers. Long waiting periods are sometimes necessary to obtain an item, and the buyer does not have a chance to do comparison shopping. With respect to premium offers, the consumer may purchase on the basis of a picture which can look different from the actual merchandise. In some instances, the item is overpriced and does not represent a real value.

Difficulty in Arriving at the Actual Cost

Senator Hart recognized the problem for the consumer when he stated that many people cannot figure out in the time available in a super-market shopping trip which is the cheaper--the 3 lb. 5-1/2 ounce package at \$1.19 or the 4 lb. 1-3/8 ounce package at \$1.29. The consumer is confused by the fractional-ounce package, which make difficult the process of price comparison.⁸

Learning Experiences to Develop Understandings about Packaging

1. Ask each student to observe and record examples of "silent salesmanship" in a neighborhood supermarket and report from their conversations with purchasers in terms of sound reasoning.

2. Prepare a bulletin board with examples of deception as revealed in various types of bottles and containers. Use opaque projector to show illustrations given in consumer pamphlet, No. 13, The Consumer Looks at Deceptive Packaging, published by the Council on Consumer Information.

3. Students read the material which summarizes packaging and labelling hearings of the Senate Anti-trust and Monopoly Subcommittee and get the point of view of industry and the consumer. Reports may be given in class.

Weights and Measures

A recent newspaper article reports an instance of the consumer being protected from short-weighting through seizure of packaged cereals by the Food and Drug Administration. The manufacturing process had made possible the puffing of cereal grains to greater volumes which resulted in less of the product than the declared weight. One cereal was found to be 15% short weight while the other was 6%.

Use of Nonstandard Weights or Measures

Past practice was to use even or standard units of measure in the market place. This has been true with respect to purchasing commodities by the pound and liquids in pints or quarts. The consumer still enjoys this right when buying gas at the local service station. However, in many instances, traditional sizes are being changed.

C.L. Warne makes these statements in pamphlet No. 13 entitled The Consumer Looks at Deceptive Packaging, copyright 1961, published by The Council on Consumer Information, Greeley, Colorado:¹⁰

By reducing the quantity and keeping the price the same, the manufacturer might keep the consumer unaware for sometime that he is not receiving the same value as formerly for his money....Therefore, it is growing increasingly obvious to many people that new regulations for the standardization of packaging are urgently needed.

A particular grocery item may be reduced from an 8 ounce package to 6 ounces, which results in a substantial price increase for the buyer. In some instances, net weight reduction goes unnoticed by the consumer. The argument is sometimes given that consumers "demand" packaging to price; therefore, quantity in a package cannot be standardized. The Consumer Counsel to Governor Brown of California answers the argument as follows:

It is asserted that we, the consumers, would rather have the quantity reduced than the price raised....If the shoe manufacturer had insisted on keeping the price of shoes the same over the years and altering the quantity, we'd all be wearing sandals.

An interesting publication entitled Watch Your Weights and Measures is based on a study by Dr. Leland Gordon and contains facts that alert students to practices in the market place. The preface to consumer pamphlet No. 7, copyright 1957, published by the Council on Consumer Information, states that this study was made possible by a grant from Consumers Union, Inc., to cover expenses, and by a sabbatical leave granted by Denison University from June, 1956, to January, 1957.¹¹

Examples are given on many methods in use to short-weight or

short-measure consumers. Students, in some cases, wish to read the entire bulletin as actual practices such as "setting an indicator fast," "the broom trick," etc., are revealed. Legislation with respect to weights and measures in the various states is compared with the Model Law.

In the summary at the end of this publication, Dr. Gordon states:

The time and effort you spend as an alert buyer can save you money. For a family the short-weighting and short-measuring 'tax' may amount to as much as \$1.60 a week. This is equivalent roughly to an 8 percent sales tax on food purchases. Adequate enforcement would cost only six cents per person per year and would represent a good investment.

In the next section, on Advertising, the subject matter content is presented as part of a teaching plan.

Advertising: Example of a teaching plan on interpreting and evaluating advertisements.

GOALS

- 1) To gain a clearer understanding of desirable standards for advertisements
- 2) To become acquainted with resources which provide a basis for reasoned choice
- 3) To better understand how to make wise choices as consumers
- 4) To achieve some understanding of the responsibility consumers have with respect to advertisements
- 5) To better understand the role of public and private agencies in protecting the consumer

MOTIVATION DEVICE

Teacher has an interesting collection of ads on the bulletin board to help students see the different messages which are being used to attract the consumer. Conversations are taped of individual student reaction to particular advertisements.

CONTENT

Advertising messages vary in their usefulness to the consumer as some are more informative than others.

LEARNING EXPERIENCES

Question: What do you want an advertisement to tell you?
Divide class into groups.
Buzz session: List as many ideas as possible in an allotted time.

PROCESSES OF THINKING

Recognition of adequate data.

Distinguishing between relevant and nonrelevant data.

<u>CONTENT</u>	<u>LEARNING EXPERIENCES</u>	<u>PROCESSES OF THINKING</u>
Advertisements are helpful buying guides when they present information about a product that will help make a wise choice rather than mere appeals to emotions.	One member from each group work together, refine the criteria for a good advertisement, and present them to the class for approval.	Distinguishing between relevant and nonrelevant data.
When an advertisement provides information based on scientific tests, the consumer has a sound basis for choice-making.	Class gives examples of misleading advertisement as they arrive at a standard.	Distinguishing between verifiable and non-verifiable data.
An intelligent consumer considers which items from a list of wants will have priority over other wants.	Each class member tells of one item she or her family wants or plans to purchase in the future.	Ability to identify a problem.
Advertisements and other resources which provide information about standards and grades are of value to the consumer.	Discuss: What things must I consider and know before I purchase this article?	Recognition of adequate data.
Guides concerning the purchase of items to meet consumer needs are available from a number of different sources--		
advertisements, newspaper, TV, radio, magazines, consumer guides, textbooks, pamphlets, and other reference material.		
Authorities state that bait advertising is prevalent in the field of used automobiles, furs, home	Collect and bring to class examples of newspaper and TV ads that meet the standards set up, and examples that	Recognizing the underlying assumptions (in the advertisements).

<u>CONTENT</u>	<u>LEARNING EXPERIENCES</u>	<u>PROCESSES OF THINKING</u>
appliances, combination screen and storm windows, jewelry, pianos, radio and TV sets, sewing machines, and vacuum cleaners.	fail to meet the standards you have set up.	
One authority defines bait advertising, a form of deception, as an appealing offer of a sensational bargain that the advertiser does not, in truth, intend or want to sell.	Class discusses and evaluates ads Excerpts from <u>(Alice Consumer in Wonderland)</u> skit are given by class members to point out baits being used by salesmen.	Distinguishing between relevant and nonrelevant data.
The Federal Trade Commission, concerned about the problem of bait advertising, has established a guide for its staff members to follow with respect to bait ads.	Examination of ads for presence of "bait" by using criteria of Federal Trade Commission.	Ability to evaluate evidence
The Better Business Bureau deals with the problem of deceptive advertising.	Class members report actual data concerning the work of Better Business Bureau.	
Areas of deceptive advertising include the following: Bait advertising Deceptive advertising about products and services Fictitious pricing	Class members volunteer to find examples of each type of deceptive advertising	Ability to evaluate evidence
Consumers have a responsibility for helping to eliminate bait advertising and fictitious pricing by reporting to organizations or agencies dealing with the problem.		

<u>CONTENT</u>	<u>LEARNING EXPERIENCES</u>	<u>PROCESSES OF THINKING</u>
Review of major content previously stated.	Summarize lesson by reviewing conclusions and evaluating advertisements.	Ability to draw warranted conclusions
A chart may be used to summarize and evaluate factual data obtained from a number of sources.	Make out an evaluation check list for an article you plan to purchase using essential factual data from different sources as a guide for choice. Teacher should have one example made up and work individually with students as they set up their check lists.	Applying generalizations

HOME PROJECT: Report back to class after the article is purchased and report the results of their processes of decision making.

RESOURCES: National Association of Secondary-School Principals. Learning to Use Advertising, Consumer Education Series, Unit No. 2.

National Education Association, 1201 Sixteenth Street, N.W., Washington 6, D.C., 1960.

Sources of Supply--The Discount House

What is a discount store? Lane states that a discount store is a bargain store that attracts customers by selling merchandise at below the "list" price, i.e., the manufacturer's suggested retail price; moreover, there have been discount stores as long as there have been list prices, for some retailer could always sell for less and still make a profit.¹³

Trends and Innovations

According to a trade journal survey in the summer of 1961 which was reported in Consumer Bulletin, December, 1961, the so-called discount stores have instituted a number of innovations, including: higher mark-ups on home furnishings and other lines, free deliveries, credit programs, upgrading of certain merchandise lines, and furnishing guarantees. The price levels of a wide variety of merchandise that once was found chiefly in large city department store basements has moved up to the "main floor" in a large one-story establishment, and the discount or cut-price operation has often been reduced to a few bait-priced items or loss leaders.¹⁴

Some people believe that four times as many big discount stores will be built in the next ten years as in the last ten. A revolution in

the way we shop is taking place as some of the nation's biggest retailers join the trend to discount department stores, and present discount stores open up new branches.

The closed-door operation of the discount store requires a payment or membership fee from the consumer for a catalog which carries list prices and discount store prices. However, in the case of certain discount stores, membership requirements have been recently removed in part or in whole from the method of operation.

Reliable sources indicate the trend in discount stores for an increased volume of the following:

- bedding
- household textiles
- clothing

Other types of merchandise carried by discount houses include:

- A particular line of apparel, such as shoes, dresses, etc.

- High-style merchandise purchased at end of season which may include sample and odd sizes

Reasons for development of discount stores are:

- Significant percentage of appliances on the market in this country were sold through discount stores.

- Ineffectiveness of Fair Trade Laws--Manufacturers tried to stop their selling below "list" price and were not able to succeed.

- Ability to "keep price competition in their product alive and thriving" was maintained through success in volume selling.

- Operation on a lower profit margin--16 to 20% of price you pay--is possible because of faster turnover of goods, reduced expenses, no trading stamps, and smaller expenses for advertising, self-service counters, etc.

Suggestions for shopping at discount houses

These suggestions with respect to taking advantage of discount houses are often found in periodicals concerned with educating the consumer.

Buy from a discount house if--

- You have shopped around enough to know that it offers the best price.

- You get the manufacturer's guarantee.

You are sure service is available.

You are sure you are getting the make and the model you want.

You get a receipt with a description of the item you buy, including the model number and serial number.

Generalizations Concerning Discount Houses

1. Discount houses have had an influence on retailing competition
 - a. The discount house has stimulated price competition by forcing the conventional retailer to become more competitive in pricing and the increased price competition has worked to the advantage of consumers.
 - b. Competition at the retail level may result in the use of sales promotional techniques which add to the cost of goods being sold.
 - c. The discount store method of merchandising is a rebellion against the "Fair Trade" Laws.
2. The more reputable discount houses usually provide a manufacturer's guaranty on brand items.
3. The consumer may profit by comparative shopping at the discount house, retail store, wholesale catalog, trading stamp store, department store, etc.
4. Services of discount houses vary and are usually less than those of other types of stores.
 - a. The discount house often offers a limited variety of goods from which to choose.
 - b. Discount houses usually operate on a cash-and-carry basis.
 - c. Credit plans, offered by a few discount houses, may or may not be economical "credit buys" according to the buyer's alternatives.

Comparison Shopping

The intelligent shopper of today should shop different sources of supply, and determine for himself by comparison where he can buy the merchandise he wants at the fairest price and under the conditions that appeal to him. It seems clear that the intelligent consumer may profit from comparing prices of merchandise available locally and in the catalogs of such well-established mail-order houses as Sears, Roebuck, and Montgomery Ward with prices listed in discount catalogs.

As the consumer shops different sources of supply, he will also need to consider the sales, since the retailer may set his price close to the discount house at this time.

Need for comparison shopping

Comparison shopping is most essential in the case of nonbranded goods, since the store may attempt to receive a large margin of profit on goods not easily recognized and compared by consumers.

Since consumers need information to guide their decision-making, some may become frustrated with respect to the purchase of clothing and textiles or other items in the discount house.

Stores, such as Sears, Roebuck, Montgomery Ward, and J.C. Penny, have dependable testing programs which give helpful information to consumers concerning washability and wearability, as well as specifications for clothing and other major items sold according to brand name.

These stores may also provide established policies for analyzing customer complaints and making adjustments for unsatisfactory merchandise.

¹Ralph R. Reuter, "In the Interest of the People as Consumers," in Journal of Home Economics, Feb. 1962, p. 94.

²Walter A. Woods, "Psychological Dimensions of Consumer Decision," in Journal of Marketing, Jan. 1960, pp. 15-19.

³Robert J. Lampman in speech given at the 53rd Annual Meeting of the American Home Economics Association on June 28, 1962.

⁴W. Harmon Wilson and Elvin S. Eyster, Consumer Economic Problems, 6th ed., p. 339. Permission to quote obtained from South Western Publishing Company, copyright 1961.

⁵K.L. Milstead in speech entitled "The Law Protects the Consumer: Recent Developments" given at the Attorney General's Second Annual Consumer Protection Conference, No. 2, 1961, in Detroit, Michigan.

⁶Senator Philip Hart, Hearings of Antitrust and Monopoly Subcommittee, July 21, 1961.

⁷Helen Ewing Nelson, "Everyday Buying Problems," speech delivered at the Second Annual Attorney General's Consumer Protection Conference, Detroit, Michigan, November 2, 1961. Mrs. Nelson is Consumer Counsel to Governor Edmund G. Brown of California.

⁸ Senator Philip Hart, speech entitled "The Congress Protects the Consumer: Packaging and Labeling Investigation--Report," given at the Second Annual Attorney General's Consumer Protection Conference, November 2, 1961, Detroit, Michigan.

⁹ July 1962 issue of Consumer Reports, monthly publication of Consumers' Union, Mount Vernon, New York, a nonprofit organization. With permission of and copyright 1962 by Consumers' Union.

¹⁰ Clinton L. Warne, The Consumer Looks at Deceptive Packaging, Pamphlet No. 13, The Council on Consumer Information, Greeley, Colorado, c. 1961, pp. 9, 11.

¹¹ Leland Gordon, Watch Your Weights and Measures, Pamphlet No. 7, The Council on Consumer Information, Greeley, Colorado, p. 34.

¹² Mary B. Wood, "Alice Consumer in Wonderland," publication of the American Home Economics Association.

¹³ Sylvia Lane, Buying Intelligently. Mimeographed bulletin, c. 1960, p. 21.

¹⁴ Consumer Bulletin, December 1961, published by Consumer Research, Washington, New Jersey.

THE FAMILY CAR

Marjorie Savage

The cost of operating an automobile is a major item in the budget and spending patterns of American families. Cohen and Hanson make this statement with respect to the problem:

The lower income family tends to spend twice as much on automobile operation and upkeep as on medical care, and at least as much, if not more, than on clothing....This situation results largely from the fact that the average person, even the average car owner, does not realize, when he first buys a car, how much more it takes to operate and maintain an automobile than he anticipated.¹

Cost Breakdown

Some families find that a breakdown of automobile costs into fixed and flexible expenses is a way of getting an over-all picture of cost.

Fixed expenditures are those which occur at regular intervals, can be predicted, and continue when a car stays in the garage or parking lot. This type of expenditure includes the following:²

- City and state license fees
- Garage rent in certain instances
- Cost for driver's license
- Adequate insurance
- Depreciation
- Installment payments

Flexible expenses include costs that occur irregularly and in varying amounts. These include:

Gasoline costs. You can determine that cost per mile by dividing the number of miles your car runs per gallon into the cost per gallon. To be sure of accuracy, take your mileage estimate over a long period of normal driving.

Oil costs. These average about .1 cent per mile.

Tire costs. Figure about .4 cents per mile for light cars, .5 cents for heavy ones.

Maintenance costs. For greasing, washing, and regular inspection and servicing costs, estimate .8 cents per mile for a low-priced car, .9 cents for a heavier, higher-priced car.

Miscellaneous expenses. Costs for polishing, parking, inspection, tolls, anti-freeze, and other maintenance average about .1 cent per mile.

Over-all Costs

Cohen and Hanson report these facts in the book entitled Personal Finance:

On the national average of 10,000 miles driven per car per year, the variable costs come to \$369 a year (3.69¢ per mile of travel), while the fixed costs amount to \$635 a year (\$1.74 per day) making a total of \$1,004, per year, or ten cents per mile. On the basis of these figures, the AAA recommends that employers who are paying car allowances to employees grant \$1.74 a day for each day that the car is driven plus 3.69¢ a mile for each mile driven. This is also a useful basis for computing transportation costs of a personal vacation trip.

Considerations in choosing a car

Careful consideration needs to be given the matter of selecting and purchasing an automobile. Many families find that in setting up a budget it is extremely difficult to make a realistic appraisal of costs. Bradley and Wherry state that each family must determine the cost of operating its own car and try to find ways of keeping costs within the family budget.

The following considerations often suggested by authorities in the consumer field may be used as a guide for rational choice-making in selecting a car.

- Reliability of dealer
- Your particular need for a car
- The number who will ride regularly
- Type of automobile needed
- The conditions under which you normally drive
- The importance of prestige and the latest model car
- The price and payment terms
- The costs of ownership and operation
- Optional equipment and luxury items desired
- Buying a new vs. a used car
- Need for high horsepower

Additional helps are provided in the booklet Your Automobile Dollar,³ which presents necessary guides concerning types of engines, transmissions, brakes and power brakes.

Contrast in High-Priced and Low-Priced Series Automobile⁴

Two-door sedan, solid color, black tires, electric wipers, gasoline and oil filter, heater, six-cylinder motor.

Approximate factory-delivered price and dealer's profit.....	\$2,271
Add: Federal tax.....	\$174
Freight.....	56
Service (dealer).....	40
Consumer's drive-away price.....	<u>\$2,541</u>

A high-priced series automobile bearing the same general description as the basic automobile above but with greater horsepower, finer upholstery, more trim, and probably luxury items, such as a clock and courtesy floor lights, may be priced to a consumer at \$2,900.

The costs of selected accessories for either of the foregoing two automobiles are:

8 cylinder motor.....	\$100
4-door body.....	50
White sidewall tires.....	32
Two-tone paint.....	19
Radio.....	54
Automatic transmission.....	189
Power brakes.....	43
Power steering.....	76
Tinted glass.....	38
Air conditioner.....	468
Electric seat and window controls.....	199

Learning Experiences on Purchasing a Car

In their book entitled, Reflective Thinking, Hullfish and Smith⁵ make this statement concerning learning:

The term, learning, may then be applied to any process within which potential stimuli become meaningful, change meaning, are discriminated with respect to possible meaning, and the like...

When environment is such, either in school or out, as to involve students in situations in which the creating and testing of meaning goes forward reflectively, then the condition necessary for the reconstruction of experience exists.

In contrast to an imposed or induced organization, the learner is the direct agent for such reconstruction.

So often as teachers we have difficulty in getting across basic subject matter or content. We should take a questioning view of the kind of experience which is provided. Is there an opportunity for real learning on the part of students? Could the case situation below stimulate thinking and bring about such learning?

Case Situation I

Mr. and Mrs. X decide to look for another car since the one they have owned the past three years is constantly in need of repair. After shopping around among three dealers, this couple finds their old car should be worth \$1,000 on a trade-in.

Assets of Mr. and Mrs. X include adequate insurance protection. An emergency fund is available in their savings account at the bank. There are additional funds available at the savings and loan association as well as in the credit union account.

When Mr. X receives an unexpected vacation, this couple finds that time is limited for making a final decision concerning the new car. The dealer encourages them to take advantage of the "easy" credit plan available to his customers through a particular bank. A new car is purchased in haste. The couple is told that it seems advisable to follow the usual 36-month payment plan and thereby avoid unnecessary delay.

What facts concerning a car should they have considered in order to think critically concerning their individual requirements? Why might it have been advisable for this couple to postpone their purchase of an automobile if it did involve use of public transportation for the vacation period?

In one class, discussion following this case situation developed as follows:

The class gave suggestions that pointed in the direction of intelligent choice making. One student believed this couple used sound judgment in trading at the end of three years. Mary said, "A family has to trade cars every three years in order to save money." Mr. and Mrs. X were doing that very thing! Another student made a statement that other families trade at the end of 60,000 miles, which may represent a five-year period.

What is the teacher's role as she helps students think through this problem? Is there a right or wrong answer? The teacher would like to help students recognize that it is economical for some families to trade cars at the end of three or four years. How can she help students be aware of the fact that obsolescence is an important factor in the value of an automobile? The teacher understands that depreciation results from wear or deterioration. On the other hand, a loss due to obsolescence occurs as a person takes title to the car.

In this instance, the teacher might make available reliable charts which give depreciation rates that can be predicted at the end of each year in a five-year period. This might help the student see why it may be wise for some families to trade at a particular time.

Students might be encouraged to collect data from reliable dealers concerning the probable cost of maintenance and upkeep for cars that are driven 60,000 miles or more before a trade-in.

Case Situation II

Mr. and Mrs. X return home from their vacation and face a long-term credit arrangement which was made in haste. They had failed to consider using their savings in this situation. Mr. and Mrs. X find that the payments they agreed to make over a three-year period actually add up to a high annual interest rate of approximately thirty-six percent. The contract which contains much fine print includes a pre-payment penalty clause. Upon interviewing the people at the bank, Mrs. X learns that she will be obligated for two-thirds of the interest, even though she takes care of her obligation in less than twelve months. To her surprise,

she also learns that if she had taken advantage of their good credit rating and allowed sufficient time for closing the car deal, they could have easily obtained a contract at a true interest charge of twelve percent at the same bank. Mrs. X realizes that their car will cost an additional \$283 in order to finance it over thirty-six months. What kind of mistakes were made by this couple in the process of making a quick decision?

THESE REMARKS WERE MADE BY ONE GROUP OF STUDENTS CONCERNING THE ACTIONS
OF MR. AND MRS. X:

One student immediately says that fine print is too difficult to understand. So why bother to try to understand! A second student said that Mr. and Mrs. X were stupid not to try to understand that stringing out payments costs money. A third student said it might have been wise for these people to take some of their savings and pay cash. Another student said Mr. and Mrs. X probably needed time and help in order to really understand the terms of the contract.

How valid were these suggestions given by the students? What supportive evidence can be provided from the authorities with respect to automobile contracts? Information such as the following might be helpful in such a situation.

In the bulletin entitled Consumer, Beware, No. 47, 1962, published by the American Federation of Labor and Congress of Industrial Organizations, these statements are made with respect to auto contracts:

Auto contracts tend to be the most complicated because there are so many cost factors involved. Every contract should list separately the credit charge and credit investigation fees, but in auto contracts there are additional charges for car insurance and life insurance to protect the car dealer in case the buyer dies before he finishes making payments. These, too, should be listed separately.

The first step in ascertaining whether a dealer's prices are in line with those of other dealers is to insist on an itemized contract....The time sale price is a good guide, but an even better practice is to have the dealer itemize all items.

A quotation from Sylvia Porter in the above-mentioned publication is related to the problem of thinking critically about costs of obtaining credit:⁶

The seller is often competing not in the price and quality of his goods, but in the looseness of his financing and selling terms....The individual buyer cheats himself when he uses loose credit. When he buys an automobile on terms of one-third down and 36 months to pay, the first $10\frac{1}{2}$ payments may go just for financing charges, though he doesn't realize it.

Credit Cost Comparison

Listed below in the right-hand column are the finance terms of an actual auto sales contract. The column headed "Credit Union" shows the charges the buyer would have paid if he had financed the car through his credit union.

<u>TO BE FINANCED</u>	<u>CREDIT UNION</u>	<u>FINANCE COMPANY</u>
Balance on car	\$175.....	\$175
Loan insurance.....	Included in finance charge.....	2.70
Health insurance.....	None.....	5.92
Dealer reserve auto.....	None.....	8.00
insurance		
Loss of car.....	4.40.....	7.00
	(Comprehensive)	(Fire & theft only)
Collision.....	19.50.....	24.50
	(\$50 deductible)	(\$75 deductible)
	<hr/>	<hr/>
Amount to be financed.....	\$198.90.....	\$223.12
Cost of financing		
for 12-month period.....	12.93.....	46.40
	<hr/>	<hr/>
Total cost of car on plans.....	\$211.83.....	\$269.52
SAVED BY BUYING ON CREDIT UNION PLAN.....		\$57.69

Source: Credit Union National Association.

In order to illustrate these differences, students may be encouraged to get some facts concerning the cost of financing a car from several sources, for example, a reliable dealer, credit union, bank, or small loan company. From the evidence they bring to class, opportunity may be provided for the student to discover the facts which are a part of an automobile contract, as well as comparison of costs among lenders.

Case Situation III

Mary Sands is sixteen years of age and her parents are thinking about giving her an automobile as a birthday present. This car will enable Mary to have considerable freedom in attending extracurricular functions. It also means that her parents will have additional expense as a result of becoming a two-car family. What factors might be considered before giving Mary a car for her birthday? Can the purchase of a second car be justified in terms of actual needs and wants over a long-term period and probable charges for operation?

Steps in Problem Solving

A. Problem is stated as "Should the Sands family buy a second car?"

B. Class members identify central issues in the problem, and key words, such as family goals, budget or spending plan, long-term costs, and expense of operation are defined.

C. Prior to discussion of this problem and making any tentative guess concerning a solution, certain basic assumptions are understood and stated:

The Sands family has a middle-class income

The family's income is dependable

Cooperation arrangements for transportation are not feasible

Mary's father has the necessary time and skill to service the family car.

D. Hypothesis: The Sands family can, by using credit wisely, afford a second car.

E. The students collect relevant data with respect to car ownership and use many sources, such as books, research reports, authoritative opinions of individuals, and interviews. Some students in such a class may own or operate a car and be willing to keep records of expenses for class use. Criteria which serve as a guide for intelligent choice-making are examined. Ways in which other families have dealt with a similar problem are considered by students.

F. Statements of class members are broken down into their constituent parts and classified so as to recognize how ideas may be organized.

Needs and wants

1. Mary is a campus leader or "big wheel"; therefore, she is expected to participate in extra-curricular activities.
2. Mary doesn't need a car because her boy friend can take her.
3. Bus service to Mary's home is very convenient.

Costs including operation and maintenance

6. Long-term payments may be necessary in order to buy the car.
7. Mary's father might agree to service her car, thereby reducing cost.
8. Since the car the family already owns is too old for family trips, a second car may be shared and thereby make possible a vacation.

Needs and wants (continued)

4. Mary is involved in many extracurricular activities.
5. The car would make it possible to take a part-time job.

Costs including operation (continued)

9. Getting a good buy on tires, oil, etc., may be possible because of the knowledge and skill of Mary's father.
10. Jane says that her boy friend's family has two cars and it didn't upset the budget.

Which of the contributions by class members indicate critical thinking? Erroneous thinking? If the Sands family has a real problem staying within the budget amount, what suggestions might be given the family in order to stay within the allowance for transportation? Possible suggestions might include the following:

- a. Consider part-time use of other forms of transportation.
- b. Trade with a station which gives a discount on gasoline.
- c. Avoid unnecessary driving and use the car for necessary errands only.
- d. Compare when shopping for standard-brand tires, batteries, and other equipment.
- e. Include the discount house when comparison shopping for tires, etc.

G. The students identified numbers 2 and 10 as errors in thinking. Related facts are brought out and summarized in the form of general statements, such as:

- *Resources such as time, skill, and abilities, may substitute for use of money.
- *If families are willing to work together in terms of specific goals, they may save money.
- *When payments are on a long-term basis, additional dollars are added to the original cost of the purchase.

H. Class concludes from the evaluation of this information that the Sands family can organize their resources and finance the cost of a second car, provided they make intelligent use of credit.

I. While the class could not test this solution, some students, who already had their own cars, might use records and test ideas.

SOME GENERALIZATIONS REGARDING THE AUTOMOBILE DOLLAR

1. A consumer who shops around for the best source of credit available to him may save money.

2. True annual interest rates may be higher than advertised rates.
3. The constant-ratio formula is a useful tool in comparing credit costs.
4. In using credit, a buyer may profit from becoming aware of hidden costs involved in the loan.
5. If a consumer reads and understands the terms written in fine print in installment contracts, he may be able to make sounder decisions regarding credit use.
6. Many states have laws regulating installment contracts.
7. Many leaders have recognized a great need for legislation that would require a seller or lender to state the true annual interest rate for consumer credit. Consumers can assist in obtaining such legislation by realizing its importance and making their demands known.
8. An accurate statement of credit costs in terms of true interest rates would provide consumers with an accurate basis for making comparison of credit charges among lending agencies.
9. Factors which influence a family's bargaining position for credit include its assets and credit rating.

¹Jerome B. Cohen and Arthur W. Hanson, Personal Finance, Richard D. Irwin, Inc., Homewood, Illinois, 1958, p. 62.

²John L. Springer, Make the Most of Your Income, New Jersey, Prentice-Hall, Inc., 1961, p. 7.

³Your Automobile Dollar, Household Finance Corporation, Chicago.

⁴Wilson and Eyster, Consumer Economic Problems, op. cit., p. 632.

⁵From: Reflective Thinking by H. Gordon Hullfish and Philip G. Smith. Copyright 1961 by Dodd, Mead and Company, Inc., \$3.50. Reprinted by permission.

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CLOTHING SELECTION INVOLVES THINKING

Hazel Taylor Spitze

The attractive young home economics teacher announces to her class at the end of the clothing construction "unit": "The buying of clothing is at least as important as making it, girls, and so tomorrow we will begin our study of clothing selection with a discussion of how to judge quality in jeans. I imagine all of you wear jeans, so I thought you would be particularly interested in that garment. You will find helps in ___ and ___ books in our library and in the January issue of _____. There are also descriptions in the mail order catalogs here in our department, and some of you might like to get some information from the stores downtown. Everyone should have something ready to contribute to our discussion tomorrow. You might even want to bring a pair of jeans to illustrate some points."

Will the girls in this class be likely to exercise their thinking powers on the morrow? If so, how? If not, why not?

The bright twelve-year-old in the seventh grade home economics class approaches her teacher with: "Miss X, my mother says I may have a clothing allowance and be responsible for choosing my own clothes if I can show her that I can do a good job of it. The first thing I need is a pair of jeans. Would you help me learn how to select them?"

Will this girl, as she pursues this study as a home project or home learning experience, be thinking? Is she more or less likely to think critically about how to select jeans than the girls in the class above? In which case is the problem more real to the learner?

Problem must be real to learner

How the reality of the problem to the learner affects thinking is one of many important questions discussed in a 1960 publication titled, Education for Effective Thinking, by William H. Burton, Roland B. Kimball, and Richard L. Wing (Appleton-Century-Crofts, New York, \$5.75). Every teacher would likely profit from reading--and owning--this book.

The authors of this book believe that the student learns to think by thinking and that problems which are real to the learner will encourage him to develop and use all his powers of inquiry. Preferably, these real problems should grow out of the life and concerns of the learner. Hence, problems are not simply "assigned."

The problem must be understandable to the learner, hence, susceptible to intelligent attack, and must motivate him to want to solve it. The problem-solving process is the critical reflective thinking by which the individual finds his way out of the perplexing situation. A problem which is not understood by the person, which cannot be attacked, and for which he has no desire for solution, is not a problem for the given individual. This is very important for teaching. (p. 21)

This statement should say much to the teacher who thinks that the harder the 'problem,' the harder the student is 'made to think.' Instead of thinking, the student resorts to trial and error and if he achieves success by accident, the method is not likely to transfer to other situations.

Definition of thinking

Burton, Kimball, and Wing quote from John Dewey's How We Think to define thinking as

active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusions to which it tends.../and/ it involves (1) a state of doubt, hesitation, perplexity, mental difficulty, in which thinking originates, and (2) an act of searching, hunting, inquiring, to find material that will resolve the doubt, settle and dispose of the perplexity. (Dewey, p. 9, 12)

Could we not say, in simpler terms, that thinking is solving a problem while carefully considering one's beliefs and knowledge about that problem and the consequences of its various possible solutions? There are many kinds of problems which can initiate critical thinking. (See Burton, et al., p. 30).

1. To find an answer, explain, discover, or verify something
2. To determine what to do in a given situation
3. To determine goals, attitudes, or policies to guide future actions or to choose between goals or policies already formulated
4. To determine the validity of conclusions, beliefs, or opinions expressed by others or to give reasons for supporting one's own expressed belief
5. To create something new
6. To draw logical inferences from accepted statements
7. To make value judgments in ethical and aesthetic fields

While emphasizing the importance of real problems, Burton also comments that some teachers show considerable genius in developing artificial problems which students accept sufficiently to get information and experience in critical thinking. Might the following be examples of artificial problems with such possibilities?

The teacher introduces the clothing buying unit by providing the girls with catalogs and a given amount of 'play' money and asks them to make out an order showing how they would spend the money to bolster their own wardrobe. They would also write the reasons for their choices, and in class discussion or individual conference, the teacher could ask questions to guide their thinking.

An imaginary classmate loses all her clothes in a fire and a service club offers to provide \$100 to supply a basic wardrobe, asking the home economics class to make recommendations regarding what to buy.

The class plans a display or exhibit that they would use to teach visitors about new fabric finishes if asked to do so by the County Fair Association.

The ingenious teacher might go a step further and make some of these artificial problems real, however, by contacting the County Fair Association, local service clubs, the welfare agency, church groups, stores (to ask for display space), and the like in order to discover problems for class consideration.

Some characteristics of clear thinking

Just how can a teacher tell when students are thinking anyway? What characteristics do they exhibit? What processes do they use?

In a class discussion designed to make a recommendation to the school board on a brand and model of refrigerator to buy for the home economics department, Jane says, "I think we should get Brand A. I like them." Has she exhibited any thinking? Added anything to the discussion? Mary adds, "One thing we can be sure of if we get Brand B is that we can get good service. We have that brand at home and my mother says she has always got good service in a hurry." Has she done some thinking? What is the difference between the contributions of those two girls?

The first expressed a mere liking or opinion with no stated basis. The second presented a point of significance concerning the problem and some evidence to support her statement. Carelessly, one might say that she presented a fact, but did she? Can she be sure that all users of Brand B would always get good service because up to that time her mother had? In helping students to think critically the teacher might state here: "That's a good point, Mary. Service is important. Do you think you have stated a fact--that users of Brand B can be sure of good service--or have you stated some evidence that this may be a fact?" And to Jane, "How will your statement help us to make a wise decision concerning the refrigerator?" Then to the class, "What else do we need to know in order to make our recommendation?"

All this will point up two important processes in thinking: the need to gather facts bearing on the problem and to evaluate statements to determine whether they are facts.

Facts and values enter into thinking

Another class is discussing a clothing problem common to all its members: What shall I wear for graduation? Again, students are led to see that they need certain kinds of facts in order to choose wisely. Part of their thinking consists in deciding upon what facts to gather:

What kind of garment is acceptable for this occasion?
 What kinds of materials are suitable and which ones wear better?
 What materials can be washed and which require dry cleaning?
 What styles are most becoming to me?
 Where can we buy such dresses?
 What is the price of various dresses that might be suitable?
 Does my mother or do I have the skill needed to make the dress?
 Etc.

But other questions also come to mind which are not answerable with facts:

How important is this dress to me?
 Is it fair to my family to ask for one of the more expensive ones?
 Will I be embarrassed at graduation if I buy an economy model?
 Etc.

We see values entering the picture. The teacher may point out that we think with values as well as with facts; we recognize that values enter into all kinds of important decisions. If a decision is based entirely on values, thinking, if it occurs, may be very muddled. But if one considers the probable consequences of various decisions, weighing facts and values to choose the best alternative, thinking does occur even though values may have influenced the choice. And in the process some values may undergo change.

We might add also that prejudices influence thinking. A person who exhibits great powers of clear thinking in some areas may be completely unrational in another area where he has deeply established biases. Teachers can sometimes help students to recognize these prejudices and the ways in which they block thinking; e.g., "Do you suppose you are using that emotionally toned language in discussing this problem because you had an unhappy experience once in this regard?" or "Is that statement colored by some strong feelings not based on facts?"

Importance of word meanings

Further along in the class discussion regarding graduation apparel we might hear: "I want my dress to be a wash-and-wear because dry cleaning is expensive and we don't have much time for ironing at our house." Another girl responds, "Wash and wear! I want a nice dress. That wash-and-wear stuff is okay for play clothes but not for an important occasion like graduation."

Here the teacher could point out the importance of word meanings. Obviously, these two girls have different meanings for the word "wash-and-wear." Each girl might offer her interpretation and the teacher might comment upon some of the difficulties manufacturers face in trying to standardize the word, including an explanation of the term Sanforized-Plus (from Cluett Peabody, Sanforized Division) and the tests used to determine whether a garment can bear this label. Other word meanings might also be discussed and the occasion might be used to explain that some finishes used to make fabrics "wash-and-wear" cause the fabric to turn yellow in chlorine bleach and that if resin finishes are used

carelessly in the mill, the fabric may be permanently set with wrinkles or in off-grain positions. Here, too, the teacher might mention some key words used on labels and the importance of using this means of getting information needed in making buying judgments.

Irrelevancies and logical inferences

If in the discussion a student offers such a comment as "My cousin sews beautifully" or "My aunt saw some gorgeous white material in Switzerland last summer," the teacher might ask how this information will help solve the problem under discussion--in order to help students see how irrelevant material wastes time and leads minds away from the topic at hand. Of course, she will be as tactful as possible and avoid embarrassing the student.

Likewise, tact is needed with the student who makes an invalid inference, such as "All rayon garments are washable" from the factual statement that she has a rayon garment which can be washed. In such a case it might be worthwhile to take a few minutes to illustrate valid and invalid inferences. Syllogisms might be used such as the classic

All Greeks are men.	or	All cats are animals.
Sophocles is a Greek.		All dogs are animals.
Therefore, Sophocles is a man.	Valid	Therefore, all dogs are cats. Invalid

The students might enjoy and profit from making some original syllogisms and labeling them as to validity. Then they might progress to something more complicated. Given the statement "If it rains tomorrow, I won't go to town" and the further statement that tomorrow arrived and I did not go to town, can one logically infer that it rained? This type troubles many people because it is difficult for them to see that the first statement did not say "If and only if it rains tomorrow...". No information was given about what I would do if it did not rain. The brighter students may particularly enjoy the study of inferences and might help the others by bringing to class examples of advertising which state or imply illogical inferences.

Define the problem clearly

When students offer irrelevant comments or show other evidences of muddled thinking, it may be an indication that they do not really understand what the problem is. Time used in defining the problem is well spent at the beginning of any study, and repeating the definition or redefining may be necessary at several points along the way. Einstein once said that "The formulation of a problem is often more essential than its solution." Surely, all would agree that it is impossible to solve a problem until it is recognized and stated, and sometimes the teacher can render her greatest service by helping a student define just what it is in her confused situation that is causing her difficulty. "I just don't look good in this dress" can be reduced to "This dress doesn't fit because the bust dart is too high and the shoulders are too long" or

"This dress isn't becoming to my stout figure because it has many horizontal lines and gathers around the waist." Note that relationships are indicated in these more specific statements of the problem.

Possible solutions to the problem (hypotheses)

Once the problem is stated, possible solutions or alternative courses of action can be advanced and ways devised to test them. For some, this is the most difficult step in the whole problem-solving procedure, but hypotheses are necessary to guide the fact collecting. As facts are collected new hypotheses or possible solutions may come to mind; hence, the two processes are interwoven in thinking. Other processes may also become interwoven with these; for example, a clearer definition of the problem may emerge as hypotheses are created and facts collected.

The ability to generate hypotheses or advance possible solutions is influenced by native intelligence, intellectual curiosity, habits and temperament, experiential background, recent activities and present interests, and sometimes even by accident. (See Burton, p. 65) The teacher can help by making general suggestions more specific, breaking the problem into parts, suggesting related experiences or problems, or encouraging bold guessing, but

The impatient teacher who gives the answer and settles questions robs the learners of the most important phase of problem-solving learning. Emphasis on the 'right answer' has also interfered with attention to the process of arriving at the right answer. The teacher, of course, is to exercise guidance within the process, but he must cheerfully accept the discursive, time-consuming processes of developing thought. (Burton, pp. 66-67)

To test the possible solutions or alternative courses of action, one can sometimes set up experiments, but more often in everyday life it is a matter of fact collection and reasoning from those facts by inference, analogy, or generalization.

Suspend judgment

A thinker will suspend judgment until "the facts are in" and carefully considered. The amount of time one should spend gathering facts is related to the seriousness of the problem and whether the decision is irrevocable. A person who delays decisions unreasonably may need help in his thinking at that stage, while the one who jumps to conclusions may need to be urged to wait and dig for more facts. A homemaker who spends hours traveling from store to store comparing steak prices may be as unthinking as the one who buys a vacuum cleaner after going to but one dealer.

It is important to anticipate as carefully as possible the consequences of each alternative and then to choose the one which appears to offer the most satisfactory solution to the problem.

Evaluate decision

Once a decision is made, the thinking person will try it out and evaluate the results for use in future decisions. If the consequences of the decision are not as he anticipated and the situation permits trying another alternative, he will do so, seeking additional facts as needed. If no second try is possible, then he will simply live with the consequences (provided they were not fatal!) and use the experience to help him in the next problem.

Climate of classroom

One important point not yet mentioned in regard to how a teacher can help students to improve their thinking is the "climate" of the classroom. To quote Burton again

A rote, mechanistic subject-centered approach will reward rigidity and consequently foster it. A flexible, imaginative, problem-centered program will reward diversity and creativity and thereby reduce stereotyped behavior. (p. 251)

Some teachers will insist that the "flexible, imaginative, problem-centered program" will not permit them to "cover the material" they feel is necessary in their course. But a skillful teacher can use these democratic means of helping each student to develop to the limit of his potential without "letting a class go wild." As Burton says, "Subject matter is covered in greater amount and with greater understanding under freedom than under imposition. Discipline is there...internal and accepted." (p. 293) Consider also these other quotations from Burton:

The formal, traditional school with its formal assignments, routine study, and fact quizzing is one of the worst offenders /to thinking/. (pp. 56-57)

We should distinguish between minds furnished with facts and knowledge acquired functionally in meaningful situations and minds stuffed with facts acquired through rote memorization or forced upon them in advance of sufficient maturity. (p. 326)

The teacher who prides himself on 'covering the text' or on 'mastery' of subject matter cannot teach learners to think. He cannot teach, but that is not yet widely recognized. (p. 314)

/In order to avoid verbalism or the repeating of material not understood/ learners should be encouraged to state their understanding in simple everyday terms.../and/ to illustrate concepts with specific situations drawn from their own experience. (p. 163)

Subject matter important

All this is not to suggest that subject matter is unimportant. It is trite to state that one cannot think without something to think about. Our efforts should be directed to selecting important generalizations in our subject matter and using these to help students think while avoiding stuffing minds with detail.

A student can memorize that a Trubenized collar is made by using a planned number of acetate yarns in cotton or rayon cloth, treating with a swelling agent, and hot pressing which causes the acetate to fuse and make a permanently stiff cloth, but unless she is using this information (for example, in selecting a shirt for her father's birthday), it will have little meaning. In addition, changing technology may soon make the Trubenized collar obsolete, and the information she will need in a few years to help her husband select shirts may be quite different. If, instead, a student is led to the generalizations that (1) "new fibers and fabrics, new finishes and uses, are appearing constantly" and that (2) "adult home economics classes and printed sources such as government bulletins may help one keep abreast of current developments," then she may learn something that will continue to be true for the foreseeable future and can influence behavior in important ways. These two points may help teachers in deciding upon what generalizations to try to include in their courses.

Some additional generalizations that might be appropriate in teaching clothing buying are these:

- (3) A plan for clothing spending made in relation to all other personal and family expenditures may help to provide an adequate wardrobe within the desired budget.
- (4) If each clothing purchase is made with the general clothing plan in mind, the consumer is more likely to have an adequate wardrobe.
- (5) Price is not a dependable guide to quality.
- (6) Comparison shopping at many sources of supply can save money. (In relation to this generalization the teacher may need to point out some little used sources of supply such as discount houses, clothing exchange centers, and rummage sales.)
- (7) Shopping can furnish the consumer more information if she is informed about the product and knows what questions to ask.
- (8) Reading and heeding labels can help consumers in making satisfactory clothing selections.
- (9) Consumers can improve the quality of labels by demanding them in retail stores, writing to manufacturers, and writing Congressmen in support of legislation designed to improve them.
- (10) Evaluation of past purchases in terms of price, amount of care required, wearing qualities in use, etc., can furnish a person with information helpful in future selections.

- (11) High fashion is expensive; multi-purpose garments and accessorizing to make one outfit serve several purposes can stretch the clothing budget.
- (12) Shopping at sales can save money.
- (13) Proper care of clothing (storage, laundry, mending) can extend the clothing budget.
- (14) The time and money cost of upkeep is a factor influencing consumer clothing choices.
- (15) Sewing skill used in making garments, remodeling, or altering can save clothing dollars.
- (16) A consumer's values influence her clothing choices.

Teachers must practice thinking, too

Teaching students to think is best accomplished by teachers who do; hence, the best preparation a teacher can have for helping students to improve their thinking is to adopt for herself a critical attitude and practice critical thinking continuously and rigorously as she makes decisions and solves her own problems.

HELPING ADULTS THINK ABOUT CREDIT PROBLEMS

Hazel Taylor Spitze

The material in the left column below illustrates some procedures used by a teacher who seems to be able to stimulate her students to think critically, creatively, or reflectively. In this adult class studying consumer credit, the teacher has asked the members to select some item of merchandise which they plan to purchase, and she uses one of these items as a vehicle to demonstrate to the class a way to attack such a problem and, in so doing, to learn the "subject matter" of consumer credit that she feels is important. Previous to this meeting she has used a pretest to discover what the students already knew about the subject.

In the right column some explanations are given for the procedures used in the class. Quotations in support of these procedures and explanations are from Reflective Thinking: The Method of Education, by H. Gordon Hullfish and Philip G. Smith (copyright 1961 by Dodd, Mead and Company, Incorporated, \$3.50. Reprinted by permission). This is an excellent resource for teachers who wish to improve their ability to think and to help students to think.

Discussion in an adult class

Student: I'm going to investigate the cost of a Brand A table model television set because my family has decided that we've done without a TV long enough.

Teacher: All right, Mrs. X, do you know what it costs?

S: Not exactly, but I think my neighbor paid about \$200 for hers.

T: Where do you plan to buy it?

S: Miller's has Brand A.

T: Is there anywhere else that you could buy it?

S: I don't know.

T: Do you think it might be helpful to find out?

S: Yes, does anyone here know of other stores that sell Brand A?

Another student: The discount house might have it.

S: Would you go there?

Other S: Why not?

S: I thought that was some kind of under-cover deal.

T: No, a discount house is a perfectly legitimate kind of business that has become more popular in recent years. I've shopped there many times. What else might you need to know?

S: The price.

T: At each dealer?

S: Yes.

Comments on procedures

Can you spot a flaw in thinking here? Could Mrs. X have made a rational decision concerning the brand of television set she wanted without investigating cost along with other characteristics of various brands? It is convenient for our example, however, to separate the cost from other considerations in order to study the credit aspects.

Mrs. X will be interested in solving this problem because it is real to her and is within her ability. Some people in adult classes, in the lower range of ability, would need a simpler problem.

"Where there is no problem, where no snarl appears in the normal flow of experience, there is no occasion to engage in thought." p. 212

"Reflection differs from the looser kinds of thinking primarily by virtue of being directed or controlled by a purpose--the solution of a problem." p. 36

The teacher is guiding the student's thinking in setting up possible solutions to her problem or alternative courses of action.

She points out the need for additional facts. The student will be eager to learn the "subject matter" as she sees it in relation to her problem. The student is led to think through what information she needs, how and where to get it, and why she needs it.

"...although the teacher will face the problem of teaching classes to think, this can be achieved only as he succeeds in stimulating each individual to reflect in ways which are compatible with that individual's own temperament, range of experience, and stage of knowledge." p. 48

T: Do you plan to pay cash for the TV?

S: Oh, no. We'll have to pay it out by the month.

T: Do you know how much you can pay each month?

S: Yes, we decided we could pay about \$30.

T: Do you think the cash price and the credit price will be the same?

S: They usually add a carrying charge, don't they?

T: Yes, they do. So when you ask for prices you'll want to get both prices, won't you?

S: Yes.

T: About how long do you think it will take you to pay for it if your guess on the price is reasonably accurate?

S: Let's see. 200 divided by 30--that's about seven months.

T: But if you paid the first \$30 as a down payment, it would be only six. Right?

S: Yes.

T: And I've heard of dealers who will give you 90 days to pay and call it cash; that is, you pay the cash price. In that case, you would have to wait only three months to buy for cash.

S: Say, that's right. I wonder if Miller's does that.

T: That's one of many things you need to find out, isn't it? I think you might also want to find out what would happen if you had some bad luck and had to miss a payment. (To the class) What

"...apart from gaining control of the method of reflection it is impossible to learn any facts at all." p. 210

"The effective way of teaching, once decisions have been made as to which facts should be emphasized at each stage of growth, is the reflective way. It is effective because it is man's sole way of providing for a continuity of learning that will carry beyond the classroom into the continuing affairs of life." p. 228-9.

The teacher does not make judgments for the student, e.g., it would be better to pay cash. She does try to help the student see the consequences of paying cash and of buying on credit.

"Exhortation, preaching, group pressures, and emotional persuasion are, in principle, no more appropriate in the teaching of values than in the teaching of physics or sociology."

Still pointing out the need for more information.

else does she need to ask?

Other students: What about service? Do they all give the same guarantee? Do they have free delivery, or does that matter?

S: Yes, these things are important. I'll try to find out about them.

T: Do you think all of these points will be equally important?

S: I suppose price would be more important than free delivery.

T: I would think so, too. Do you suppose you can remember all these things from all the stores and keep them straight in your head?

S: Maybe I'd better write them down.

T: How do you think you might do in order to make it easy to compare?

S: I hadn't thought about that.

T: Any suggestions from the rest of you?

Other students: She might write the information from each store on a separate card. Or she could make a chart that has spaces for each kind of information.

S: The chart idea sounds good. Do you mean something like this? (She lists stores vertically on the chalkboard and begins making columns for cash price, credit price for six months, guarantee, etc.)

Other S: Yes, just be sure you leave enough space and include all items you're interested in.

Class involvement. If other members can feel involved in this problem or see the relation between it and their own problem, they can be stimulated to think, too.

Teacher suggests weighing facts

Class involvement

Guidance in organizing facts collected

T: You're beginning to get some idea now of what your alternatives are, but you'll need to gather considerable information before you can be very definite, won't you? Do you think you could get it before our class meets next week?

S: I think so.

T: Are the rest of you thinking through how you'll go about making a decision on your prospective purchase? Perhaps you'll make a chart, too, but it will be different. Do any of you have any questions about your problem that you'd like to discuss with the class?

Other S: Do we have to have our charts filled out by the next class?

T: Not necessarily, although I think you might at least begin to give some thought to the kinds of information you need to gather. Is there some reason to postpone your comparison shopping?

Other S: My item is a winter coat, and I thought in another month there might be some good sales. I can wear my old one that much longer.

T: That will give you some extra time to study about how to judge quality in a coat, won't it?

Other S: Yes, and to save some more money so maybe I can pay cash.

(Next class meeting)

T: Mrs. X has put her completed chart on the board for us (see next page) and she would like for us to help her see whether she has enough information to make a decision. Perhaps she can set up some definite alternatives now. How do you see it, Mrs. X?

Interplay of hypothesizing and fact collecting

"A properly conceived classroom can facilitate the development of conceptual behavior. A continuing emphasis upon meaning, rather than upon mere fact; a concern for the relatedness of fact, event, and meaning, in opposition to the dreary pursuit of isolated items of information; the attempt to move students to levels of imaginative projection where consequences of alternative answers may be considered before an answer is proposed...." p. 168

Teacher is not rigid, does not force class with requirements, lets each individual proceed with her own problem.

Class involvement

MRS. X'S CHART OF TV INFORMATION

Dealer	Cash Price	Credit Price (\$30 down, 6 mo. installment)	Guarantee	Service Dept.	Delivery
Al's discount house	\$150	No credit	Manfg. 1 year	No	Free
Miller's	\$200	\$210.40	"	Yes	"
George's	\$200	\$210.40 (90 day free credit)	"	Yes	"
Ray's	\$200	\$218	"	Yes	"
Gibson's	\$200	\$215	"	No	"

S: The lowest price was \$150 at Al's discount house--I did go there. That's cash price and they have no credit. So one alternative would be to wait four months until we save that much and buy there. George's price was \$200 and they offer 90 days free credit as you mentioned, so we could wait three months and buy for cash there.

Another S: Looks like if you can wait three months, you could wait one more and save that \$50!

S: Yes, I think we would. Another possibility is to get it now at Miller's. Their price is \$200 + \$10.40 carrying charge to be paid in six equal montly payments with \$30 down. They said they charged 6% but my husband explained to me that it is an add-on rate and is really about 12% true annual rate.

T: Yes, rates are often quoted as add-on rates, and I'm glad you have pointed out the difference between that and a true annual rate.

Some opportunity here to point out value considerations in getting TV now or waiting

"Thinking creates alternatives." p. 41

"There is more to teaching than serving as a conveyor belt that transmits the materials of a book to the 'minds' of students." p. 22

Facts are weighed and compared. Various alternatives considered.

"Sound inference, whether deductive, inductive, or abductive requires that terms be used with clearness and consistency." p. 129

"The first lesson to be learned by the teacher who sincerely wishes to stimulate reflective activity is that effective forms of thinking cannot be imposed arbitrarily upon

S: I was surprised to learn that the carrying charge at Gibson's was \$15 for the same deal although their price was the same, \$200. And at Ray's, \$18.

T: So you're seeing the value of comparison shopping! Do you have any other alternatives in mind?

S: These three seem to be best. They all had the same guarantee which comes from the manufacturer and they all had free delivery. Al's discount house does not have a service department, but Brand A is serviced at numerous other places in town.

T: (to class) Do you think she's ready to make a decision?

Other Ss: Seems so to me.

T: I was wondering if you had thought of borrowing the money and buying now at the discount house.

S: No, I hadn't thought of that. I don't know where I could borrow that much.

T: With your \$30 down payment in hand you would need only \$120. Where might she borrow that amount?

Other Ss: The bank. A loan company. Do you belong to a credit union?

S: Do banks lend for such purposes?

T: Yes, in their consumer credit departments, they do. If this possibility interests you, you might gather some more information this week on the costs of such loans. Do you or your husband belong to a credit union?

students....students need guidance, stimulation, and encouragement /and/ countless opportunities for practicing and perfecting their habits and techniques of reflection." p. 48

"The teacher...not only leads the students through a process of thought to check the adequacy of their meanings, he also widens and enriches their conceptual activity by the range of information he brings to bear on the problem." p. 198

Teacher encourages suspending judgment until further facts are collected. Also uses own broader knowledge to help student see additional alternatives.

"The life of the free man is a life of making choices....And the wise choice always means a delay in action until the alternatives confronted can be imaginatively explored and their consequences forecast." p. 142

Class involvement. More help offered in where to get facts.

S: Yes, my husband does at the hospital where he works.

T: Then you have at least three possibilities to investigate: banks, loan companies, and your credit union. You'll need \$120 and at \$30 a month you could repay that in four months, couldn't you? So you'll need to find out the cost of a four-month loan. And we'll see if you have some new alternatives next week. How are the rest of you coming with your problems?

Other S: I'm glad you mentioned this possibility. I hadn't considered borrowing and buying at a cash place either. Do you have any other suggestions we might have missed?

T: For those of you who are buying clothing, have you investigated the layby plans? And sometimes there are special discounts to special people--like teachers' discounts on encyclopedias, home economists' discounts on sewing machines, etc. Also, you may belong to a lodge or some other group that has a cooperative arrangement for getting certain kinds of discounts. Someone last time mentioned sales. If you have time to investigate all the angles you may save some money!

(Next class meeting)

T: Mrs. X has some new information on the board for us today (see chart) and she also has news. She has bought her television set! Tell us about how you decided, Mrs. X.

Teacher summarizes.

"A problem is always a personal affair, as teachers would do well to remember....The simple fact is that individuals become involved in only those problems they accept to solve." p. 107

"If we view meanings as the basic building blocks of learning, then any event which results in a reconstruction or reorganization of a meaning pattern may be called a learning experience." p. 180

COST OF \$120 LOAN for 4 mos. repaid monthly		
Lender	Dollar cost	True annual rate
Bank	\$2.40	12%
Loan Company	\$7.20	36%
Credit Union	\$1.61	9.6% (.8% per mo. on unpaid balance)

S: I found out what you see here about the loans at various places. The loan company, by the way, was not very interested in a four-month loan and suggested that I make it for twelve months with smaller payments. I could see that would cost so much more that I insisted on the four months and finally got this figure.

As you see, the bank was much cheaper and our credit union still a little less.

Then I heard about the place that sells merchandise that gets damaged in shipping, so I dropped in to look it over and what do you think! There sat a Brand A TV with the sides of the cabinet scratched and nothing else wrong--and it was marked \$130. We had it checked by a repairman to make sure the "insides" were okay--he's a friend my husband has done favors for so he didn't charge us--and then we borrowed \$100 from the credit union and got the set.

The scratches won't show where we put it, and, of course, we can refinish the cabinet if we want to. So we got our TV without waiting and paid only \$131.61. We decided to stretch the budget and repay in three months at about \$34 a month.

Just think--we could have paid nearly \$250 for that set if we hadn't borrowed at a loan company and bought at a regular dealer! Even charging it at Miller's would have cost \$210. If we hadn't found this damaged one, we would have bought at the discount house with a credit union loan and paid \$152.40. Aren't these differences amazing?

Decision is made in light of the alternatives suggested and the facts

"In the case of abductive inference, the beginning of sound reasoning is a matter, not of making the correct inference, but of choosing the most promising among those supplied by our creative activity." p. 120 (Italics supplied.)

"Free, reflective men...need to control skills and knowledge.... Control will result only as the gain is made under conditions of meaningful activity." p. 182

T: This is very interesting, Mrs. X. I hope you will always be as pleased with your purchase as you are now. We can never be completely sure of how our decisions will work out until we have made them and observed the results, can we? And I hope the rest of you will be equally pleased with your purchases. Has anyone made one that she is ready to tell us about?

Teacher points out need to evaluate decision. She might also have asked here how Mrs. X can use the experience of this problem and her decision in helping her with later problems. Applications will also be illustrated as other members of the class report on their problems.

Hullfish and Smith say that "...thinking is the term used to name the activity of creating, using, and testing of meaning" (p. 81), and we believe that this teacher has illustrated this activity. As they say further, "It takes time, of course, for a teacher to gain skill and confidence in using student answers as springboards to launch a shared intellectual enterprise," but what alternative has she if she really wants to teach her students to think?

* * * * *

NEW Home Economics Slides

The University of Illinois offers a series of slides--"Think College! Think Home Economics!" that explains Home Economics at the college level. The field has been organized around four interest areas: (1) Art, (2) Science, (3) Business, (4) People. This new approach is aimed at recruitment of high school girls but should also interest adults not familiar with the Home Economics of today.

Please cut out and use this order form:

Visual Aids Service, 704 South Sixth, Champaign, Illinois

Please send slides "Think College! Think Home Economics!" (35 m.m., colored - 2" x 2" - 8 min.) There is also an accompanying sound tape. No charges. I agree to return promptly and postpaid.

Date _____ or _____ or _____
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ILLINOIS TEACHER OF HOME ECONOMICS

IMPROVING THINKING WITH A CLOTHING TEXTBOOK

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UNIVERSITY OF ILLINOIS BULLETIN

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IMPROVING THINKING WITH A CLOTHING TEXTBOOK

About the authors:

Mrs. Mary Mark Sturm is Director of Home Economics of the Chicago Public Schools

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They are co-authors of Guide to Modern Clothing, published by McGraw-Hill Book Company, Inc., in 1962

Education is not merely the imparting of knowledge but the cultivation of certain aptitudes and attitudes of the mind abilities (which) should be sought above all others--these are in our opinion: to think effectively, to communicate thought, to make relevant judgments, to discriminate among values.*

It was to make a contribution toward achieving this goal of education that the Illinois Teacher of Home Economics was planned for 1962-63. Each of the issues has shown how thinking can be developed through the teaching of a particular area of home economics subject matter. The first two issues included a large amount of background knowledge related to the development of the ability to think. Each of the succeeding issues has assumed that the basic information is either known or has been referred to by the reader. All of the issues in the series will be useful for reference as the teacher makes her personal plans to help her students develop the ability to think in whatever subject she teaches.

This issue is concerned with the subject-matter area of clothing and has two specific goals:

To correlate the teaching of thinking with the teaching of clothing

To show how a textbook can be used as a basis for this teaching

Guide to Modern Clothing, published by McGraw-Hill Book Company, Inc., in 1962, and written by the authors of this issue, is the textbook which has been used as the basis for the issue.

These authors were selected by Miss Letitia Walsh to write this issue because she was familiar with the preparation of the manuscript for the book and therefore understood that their basic philosophy for the development of the text agreed with the basic concept for this series of the Illinois Teacher of Home Economics.

A bibliography of educational reference books on the subject of "thinking" was given in Volume V, No. 9. Books which were of special help in preparing this issue are given on page 288 of this issue.

*Report of the Harvard Committee, General Education in a Free Society (Cambridge, Mass.: Harvard University Press, 1946), pp. 64-65.

Teacher Responsibility

Two objectives of education may be stated as insuring that students:

1. Will emerge with an organized body of subject matter appropriate to the foreseeable future
2. Will have developed processes of critical thinking that will enable them to solve future problems when the content they learned in school may have become obsolete

In order to achieve these objectives teachers have to develop the ability and willingness to patiently think themselves and then help their students to do so.

Brown, Lewis, and Harclerod state in A-V Instruction Materials and Methods that, "A professional teacher:

- * Knows the objectives of the school curriculum and the particular contributions to be made in his own classes
- * Knows his content fields thoroughly and keeps up to date in them
- * Knows the specific learnings students should obtain in their studies with him--the understanding of content, skills and habits, appreciations and attitudes
- * Guides and directs learning activities based on his knowledge of how students may best achieve the goals expected by society
- * Knows and uses various school services to understand students, improve teaching methods, and obtain instructional materials
- * Studies his students--attempts to understand the interests, backgrounds, abilities, needs, and drives of each individual
- * Develops and encourages interests of his students
- * Provides a warm and sympathetic classroom climate in which all students and the teacher work together happily and productively
- * Plans classroom activities on the basis of the points stated above
- * Checks regularly to determine the success of his teaching program in relation to the established goals"

All of these should implement the teaching of thinking. All of them require the teacher's continuing endeavor to keep up to date. For clothing teachers this requirement is most significant.

Teacher preparation

To provide the best quality of teaching a teacher must:

Understand the aspects and processes of thinking
 Know her students and provide experiences for all levels
 Clarify her own values
 Practice thinking and evaluate it
 Stimulate and evaluate her students' thinking
 Be informed on current discoveries and developments in her subject field
 Consciously strive to develop her students' thinking

This high standard of quality to teach clothing demands adequate and continuing preparation. It requires broad, comprehensive preparation in general education as well as breadth and depth in the subject-matter area of clothing. In addition the teacher needs to have a knowledge of procedures applicable to the teaching of clothing. She must be able to organize units, learning experiences, and construction projects so that student thinking is developed. She needs to know what teaching aids are desirable, where they may be obtained, and how to use them.

Teachers need to appreciate the necessity for continued learning. Quality teaching brings a recognition of the need for and stimulates a permanent interest in obtaining further learning. Membership in professional organizations and participation in their activities, and the reading of professional literature are forms of self-directed continuing education. Doing professional writing and serving on educational committees are particularly stimulating. More formal types of continuing education are graduate courses and participation in workshops and in-service education programs.

The ability to do high quality teaching is a cumulative process. The present emphasis on teaching with principles and generalizations, and on the developing of the ability to think, is challenging. Practice in this type of teaching improves the teacher's ability to be successful with it. As with other skills, practice brings confidence in the method and ease in using it.

Guidance of students

It is the teacher's responsibility to guide the student in developing her ability to think. The first responsibility is that of motivating the student to want to learn. The next is that of furnishing the basic tools and knowledge needed in the processes of thinking. The teacher will provide experiences which will require the student to think at the level of her ability. As the student grows in her thinking power, the teacher may provide experiences which require deeper thinking of broader scope. Throughout the process the teacher must set a classroom atmosphere which is conducive to learning and thinking.

Some of the specific things a teacher can do to help students develop their ability to think are:

- * Help students discover facts
- * Clarify terminology
- * Help students recognize and overcome emotional stresses and biases

- * Ask thought questions and permit students to answer them
- * Permit students to identify their problems and attempt to solve them
- * Guide the process of problem solving
- * Encourage students to make comparison
- * Identify relationships
- * Develop standards
- * Point out errors in thinking
- * Encourage independent work
- * Assist in the discovery of principles
- * Aid in the formulating of generalizations
- * Stimulate research

Making adequate plans

If teachers are going to succeed in teaching so that students develop their power to think they must make a conscious effort to do so and plan accordingly. When students are led to formulate generalizations rather than to learn specifics which will readily become obsolete these will help them in solving similar problems in various areas and will influence their behavior for some time to come. The selection of generalizations that the teacher hopes the students will ultimately formulate will serve as a guide to her in her planning. They should be kept in mind as curriculum is built, units are decided upon, and daily lesson plans are developed. The learning experiences and assignments, though they must be selected according to the varying ability and interest levels of the class members, should also be selected on the basis of what they will contribute to the formulating of generalizations. Students will vary in their ability to generalize, but all students can arrive at generalized understandings when learning is carefully guided.

In addition to planning the organization and presentation of course content, there are other kinds of planning that are necessary. The preparation of teaching aids, such as shells, demonstration materials, teaching models, visual aids, duplicated forms and check-lists, etc., is an important part of planning for teaching. The arrangement of equipment, the student assignments for use of equipment, and the allotting of class duties are all routine matters which must be planned for greatest efficiency. The scheduling of time for the term, units, and individual class periods should be a part of planning.

Teaching with a Textbook

In the study of clothing, as in every other subject, a textbook for each student is helpful in the learning process. While other sources of information may and should be used, a textbook that meets the needs of the particular class provides the basis for the course content. The book must be carefully selected and wisely used.

Value of the textbook

The use of a textbook contributes greatly to the classroom learning situation. There is evidence which indicates that students grasp new facts much more efficiently by reading than by oral presentation, especially when the written material is closely correlated with appropriate visual aids. To be fully effective the textbook should be in the hands of each student. When one set of books must be shared for several classes, special planning for their use is necessary.

The advantage of textbooks over other forms of teaching materials is that they make several unique contributions to classroom instruction.

1. A good text serves as a guide or organizer of the subject matter in the course.
2. Well prepared texts represent the best thinking and experience of experts in the field. M.R. Trabue in an article in the Forty-Third Yearbook of National Society for the Study of Education says that it is probable that the author or authors of a textbook have given long and thoughtful study of what should be taught and how it may usually be taught effectively.
3. A textbook provides uniform fare for students who differ widely in background, experience, interests, and abilities. Of the many resources available to the student, the slow learner will use a few; the rapid learner will find that many more give her satisfaction. For both of these groups, as well as for the average student, the textbook is the basic source of information.
4. Independence of the individual is stimulated and developed by an adequate textbook. The development of independent thinking is always a goal of education. In large classes of mixed abilities independence is an absolute necessity for maximum progress of the individual.
5. A textbook is a convenience. In addition to points listed above, it is valuable for review, for reference, for make-up following absence, and for repetition needed by the slow learner. Assignments can be made to meet individual requirements.
6. A good textbook is a ready source of suggestions for reference and for school and home activities.
7. A comprehensive textbook is especially valuable for the beginning teacher or the one who is inexperienced in a particular

area of subject matter. The skills of any teacher may be improved by the guidance of qualified authors.

Criteria for selection of a textbook

While most school systems provide an approved list of textbooks, the individual teacher must choose from the list a book which fits the students in her particular situation. She does, therefore, need some criteria for making her choice. The first consideration in judging any textbook is whether or not principles are developed. A textbook based on principles will stimulate thinking.

In their book A-V Instruction, Brown, Lewis, and Harclerod give the following specific criteria:

Does the textbook fit the readiness level of the students who will use it?

Is the textbook accurate and up-to-date?

Do its contents coincide closely with the philosophy of the school in which it will be used? Does it emphasize creative uses for knowledge and problem solving rather than rote learning and memorization?

Does it help the learner to recognize intended outcomes of the study (objectives)? Does it suggest ways he can measure the success with which he achieves these goals?

Does the textbook provide for realistic experiences--in its suggested activities and examples--so that students may readily connect generalizations to realities?

Are text presentations readable, comprehensible, and interesting to students who are expected to read them? Is the format attractive?

Does the textbook contain well-selected self-help aids? Is the index well arranged?

Does it make integrated use of appropriate, well-prepared graphics and pictures? Or are they used primarily to "dress up" appearance?

An analysis of textbooks should also include an evaluation of these points:

Items pertaining to authorship--point of view, training, experience, time of experience, reasons for writing the book. Method used in writing, general style and intelligibility of presentation of the content

General nature and organization of the materials of instruction, master divisions and subdivisions, and suggestions on methodology

Instructional aids and helps included--accompanying teachers' guide, workbooks, table of contents, charts, diagrams, summaries, exercises, interspersed illustrations, glossaries, etc.

Mechanical features and format--number of pages, size and facing of type, binding, quality and finish of paper, pertinence and accuracy relative to placement of pictures, designs, accompanying descriptions and explanations

Items pertaining to publication and publisher--date of publication; if revised edition, date of revision, actual revision aspects; name of book; one of a series; author; any specific other designation

Use of a textbook

The value of any textbook depends upon two factors--the quality of the book itself and the way the book is used in the classroom. Correctly used, a textbook will stimulate thinking and promote learning; incorrectly used it will be ineffective and even interfere with the learning process. If the purpose of education is to teach effective thinking, merely to require students to read and remember what they have read, later to be checked by tests and recitations, is obviously a poor educational practice.

Better uses of reading are listed by Brown, Lewis, and Harclerod as (a) to find answers to problems, (b) to obtain help and guidance in choosing one or more alternative courses of action, (c) to be diverted or entertained, or (d) to build new insights and appreciations. Students need to be asked to evaluate and criticize materials they read and to come to their own conclusions concerning their value, accuracy, bias, or practicality.

Textbooks adapted to a particular classroom situation and group become teaching assistants. The first step in making a successful adaptation is for the teacher to become familiar with the book. She must be conscious of the author's purpose, must know the content and the intended method of use.

The author's purpose is usually expressed in the preface. The content is also often clearly outlined in the preface. For example, in the preface of Guide to Modern Clothing this statement appears:

PURPOSE

1. To give the young girl the principles and standards of clothing within her realm of interest and at her level of comprehension
2. To help her attain the pleasure and satisfaction that result from careful buying and successful making of clothes
3. To help her become aware of the comfort, freedom, and health that result from the selection and use of proper clothing
4. To help her develop the pride and confidence that are created by good grooming and neat appearance
5. To help her realize that it is through personal analysis and application of the fundamental principles of art rather than by the continual buying of clothes that she can dress most becomingly
6. To help her acquire information, attitudes, and skills that will aid her in the solution of personal and family clothing problems

7. To enable her to become an intelligent and responsible consumer
8. To organize for her the way to make clothes by the easiest, quickest, and most efficient method--the Unit Method of Clothing Construction
9. To provide her with step-by-step directions with photographs for the making of a series of garments that can be carried out with a minimum of help from the teacher
10. To give her maximum help in subjects closely related to clothing construction and their application to modern methods of construction

Guide to Modern Clothing consists of twenty-one chapters which, according to subject matter, might be divided into the following three groups:

1. The first group consists of six large chapters in the following areas: appearance and grooming, color and design, fibers and fabrics, wardrobe planning, selecting and buying clothes, and care of clothing.

The illustrations within these six chapters are mainly four-color and black-and-white photographs of people to show examples of dress for the most effective visualization of the particular subjects and topics discussed.

At the end of each of the six chapters in this group are twenty to twenty-five suggested learning activities that are highly varied: some for individual endeavor, some for group use, some for the entire class; some for home experience and some for class projects; and some to make use of community resources.

2. The second group consists of eight chapters that cover the following aspects related to clothing construction: the Unit Method of Clothing Construction, equipment and techniques for sewing by machine and by hand, pressing, handling fabrics, use of the pattern, and fitting. The illustrations within these eight chapters consist mainly of two-color drawings and black-and-white photographs to visualize technical aspects of the subjects and topics discussed.

3. The third group consists of seven chapters made up entirely of clothing construction projects in step-by-step instructions for the making of the following garments: an oven mitt, a simple blouse, a cotton skirt, a jumper or slipover dress, a shirt, an advanced dress, an advanced skirt, a semi-tailored jacket, and a fully tailored coat. Within this series are all the techniques necessary for home sewing and for the making of many variations of garments for children and adults, as well as for teen-age girls.

The illustrations in these seven chapters consist almost entirely of black-and-white photographs of parts of the garments on which the techniques in the instructions to be carried out

by the student are pictured. The photographs were taken especially for the book as the techniques were carried out by the authors in the actual making of the garments. A photograph of the finished garment appears at the beginning of each chapter.

The second step in the adaptation is an understanding of the author's plan of use for the book:

PLAN OF USE

Guide to Modern Clothing is written to encourage individual endeavor of the student by the detailed plan of organization, the frequent use of cross reference, the many helpful illustrations, and the placement of directional material in chart form.

The teacher will make the best use of the book by having the students study various of the chapters at the most appropriate time.

Guide to Modern Clothing gives instructions in Chapters Fifteen to Twenty-One for the making of garments in a series that follows a progression of learnings from the simplest to the most difficult of garments. The student must be helped to see the interrelationships of the various aspects of clothing for her particular purposes in order to make practical application of the subject matter.

The teacher must also help her students understand the plan of the book and how to use it in solving their problems. For instance, in Guide to Modern Clothing the student must understand that:

The detailed directions for a technique are given the first time the technique is used, and referred to rather than being repeated when it is used again. If the student understands that the techniques learned in the making of any one garment are the same techniques used in the making of other garments, she will understand the importance of mastering each technique.

All illustrations are captioned with the exact wording of the heading to which they apply, and the A, B, C labeling on the illustrations is used to key in the technique in the text where it most appropriately relates.

Charts, check-lists, forms, diagrams, etc., must be studied and understood by students if they are to facilitate thinking and learning. It is the teacher's responsibility to interpret these aids.

Procedures for Helping Students Think Effectively

Most of the procedures which have been developed for teaching can be used as a means of developing thinking and most of them can be used to teach clothing. The procedure to be selected for use in any particular classroom at any given time will depend upon a number of factors:

- * Personnel of the class
- * Physical facilities available
- * Training and experience of the teacher
- * Generalizations that may evolve

The particular technique that may be chosen is not as important as is the manner in which it is used or the way in which it is carried out. This is what determines whether thinking will be stimulated or discouraged. If the teacher's objective is sincerely "to help students develop their thinking process," she will keep this goal in mind as she makes and carries out the plans for her teaching. Inspiration and practical assistance will be gained from a careful study of Volume VI, Nos. 1 and 2, of Illinois Teacher of Home Economics in which the basic principles of developing thinking have been assembled.

Certain procedures and techniques which may be adapted to develop the thinking of students in a clothing class are given here as illustrations.

Using values

Valuing is as definitely an aspect of thinking as is reasoning and the action taken as a result of the reasoning and valuing. All three aspects must be developed if the student is to reach his maximum potential in ability to think.

The subject matter areas in home economics, including clothing, can make a unique contribution to the valuing, or feelings, aspect. Because the student is so personally involved, the clothing teacher has the opportunity to help students recognize their own and others' values, understand their sources and their influence, evaluate and possibly change their feelings. If this unusually favorable opportunity for emphasizing valuing is wisely exploited, it could be the most unique and acceptable asset of home economics in the school program of the future.

Some phases of the thinking process in which the value aspects are important are:

Identifying values of self and others

Recognizing different ways by which values are expressed

Clarifying values for meaning and probable implications

Weighing values in light of true goals in life

Making judgments in terms of accepted personal values

Making decisions considering possible consequences

Drawing warranted conclusion from results of choice making

Formulating one or more general concepts

Applying concepts to other situations until achievement commensurate with individual's ability is reached

Teachers can assist students to clarify, understand, and use values in their thinking by a series of four steps which, however, may overlap or be taken simultaneously.

First, by helping the student become aware of values and the significance of them

Second, by helping the student realize the influence of values on thinking

Third, by helping the student analyze and understand her own personal values

Fourth, by helping the student develop values of high standards

The significance of values

Many young people have not given much thought to what is meant by values nor to the fact that values have great significance in making decisions and in determining courses of action. In order to make the best decision and to take the best course of action a person must have a clear understanding of what values are and the importance of them. Once aware of values and their significance, it may be well for students to think of values in the order of their importance. In the bulletin Home (Learning) Experiences, Dr. Marjorie Brown recommends three levels for value statements, beginning from the small, often personal value judgment which might be termed a minor value statement, through a deeper and/or broader level which might be termed a major value statement, through various levels culminating with what might appear to be an ultimate value. If the student has an understanding of these value levels it will help her support those values which are of greatest importance. Only in this way may the student learn the true significance of values and their place in one's philosophy and mode of action. To illustrate:

Lower order of value statements--minor statements

Sue wants a new sweater

Sue's mother has given her some money to be spent for clothing

Higher order of value statements--major values

Sue wants to be well dressed for the assembly program in which she will have a part

Ultimate value statement

Every girl should have a well-coordinated wardrobe which will meet the needs of her various activities

Influence of values on thinking

Students must be helped to realize that valuing, or feeling, is a part of the thinking process. In Volume VI, No. 5, "Consumer Buying: Content for Stimulating Thinking," Hazel Spitzke states that

The teacher may point out that we think with values as well as with facts; we recognize that values enter into all kinds of important decisions. If a decision is based entirely on values, thinking, if it occurs, may be very muddled. But if one considers the probably consequences of various decisions, weighing facts and values to choose the best alternative, thinking does occur even though values may have influenced the choice. And in the process some values may undergo change.

We might add also that prejudices influence thinking. A person who exhibits great power of clear thinking in some areas may be completely irrational in another area where he has deeply established biases. Teachers can sometimes help students to recognize these prejudices and the ways in which they block thinking.

Sue's decision in regard to spending the money she has for additions to her wardrobe will be made on the basis of her scheme of values. The wisest decision will be based on the ultimate value statement in which Sue has considered all aspects of her situation--the available money, her participation in the assembly program, the garments in her present wardrobe, and all of her activities--not merely her desire for a new sweater nor even her wanting to be well dressed for her participation in the assembly program.

Analysis of personal values

A vital part of teaching is to help others see more clearly what they cherish and how they are thinking and planning. Students must be taught to reason logically and to make judgments in order to check the desirability and validity of values. They must also realize that in a value system in which there will be no conflict, one value must depend upon another and all must be consistent with each other and with the basic values held.

Dr. Louis E. Rath, writing on "Teaching as a Clarifying Operation," makes specific suggestions of ways by which teachers can clarify students' thinking. Some of his suggestions have been adapted as follows:

Clarifying through definition or description

To ask for key words and phrases, or descriptions of the main idea

Clarifying through questioning of meanings

To ask such questions as: "Is this what you mean? Is there another way of saying it? Is this the idea? Do I understand you to say ...? Am I correct in this interpretation?" may help to clarify. Here the teacher is not saying again what the student has said; the teacher is interpreting the student's expressions.

Clarifying through illustrations or examples

To ask for illustrations, examples, classification, or analogies is an aid to common interpretations and meanings

Clarifying through questioning of underlying assumptions

To reveal or to question the reasonableness of some of the seemingly necessary assumptions underlying the student's expression may help

Clarifying through locating points of difficulty

To say: "How can I help you? Where are you stuck? What's getting in the way? What help do you need?" may clarify difficulty

Clarifying through anticipation of consequences

To project the student's expression into a scene of future action or into the past, or into other places, and to ask for probably consequences may also aid in illuminating the student's meaning

Clarifying through summarizing a series of steps

To summarize the logic of a student's presentation: "If this is true and this is true, then you think this conclusion must follow? If you do this and this and this, then you think the goal will be achieved?" This outlining of procedures is often an aid in clarifying the student's planning and thinking process.

Students can be led to understand that their values are identified by:

- | | |
|--------------------------------------|--|
| 1. What they do | 4. What they admire in others |
| 2. What they think about | 5. What they choose to sacrifice |
| 3. What they spend time and money on | 6. What they feel they can't get along without |

The teacher has a responsibility in guiding the development of her students' values. This does not mean that the teacher should be dogmatic in setting values for her students, nor that she teach conformity to certain tastes or preferences but, rather, that she should help her students examine values from the standpoint of what is worthwhile. This involves helping students

1. Learn to justify their values through reasoning
2. Become familiar with facts and principles which have been established by authorities for examination and use
3. Make personal application of the principle in order to form their own value standards

In a study of clothing a teacher cannot teach and a student cannot learn without giving consideration to values and using them as a guide. A student can more quickly, more objectively, and successfully establish a set of standards in regard to color in her clothes if she understands the facts and principles involved. This is equally true in regard to the standard she sets for the design of her clothes, buying of clothes, care of

clothes, personal grooming, etc. The standards developed through experience in the construction of garments helps set her standard in ready-to-wear clothes.

The clothing teacher must be conscious of her obligation to help students in their development of values and must make her plans so that her obligation is met.

Use of the scientific method

One means of developing critical thinking is the use of the scientific method in teaching. According to Burton, "A person thinks critically to the degree that he exhibits the following skills and attitudes:

1. recognizes and defines problems
2. formulates adequate hypotheses
3. makes pertinent selections
4. draws valid conclusions
5. applies conclusions"

These characteristics can be developed through practice in solving problems by the scientific method.

The scientific method can be utilized in the solution of problems in clothing as in any other subject area. There is no doubt that at times a teacher of clothing uses elements of the method without being conscious of it. At other times she is making a conscious effort to use the method, but is not being entirely successful because she does not follow through. In either case students may not be challenged to their maximum capacity of thinking because they have not been given the opportunity for doing research and experimentation as a basis for forming their own hypotheses or making practical application of them. Thus a concept has not really been established that will be a basis for formulating a generalization.

The scientific method can be followed in the development of any of the various types of units discussed on pages 261 to 266. It can be utilized in any subject matter area of clothing. It can be a means of organization of the learning process in which many other procedures or techniques can be incorporated.

In the chapter "Color and Design in Your Clothes," from Guide to Modern Clothing, Learning Experiences 12 and 13 are being used here to show how this method may be applied in clothing.

- Step 1: The problem is to discover what is good proportion in dress design for different figure types
- Step 2: Formulate possible solutions. A study of the chapter will provide valuable background information that will be helpful as students work on problems. The experiments suggested in the Learning Experiences are:
- Try different lengths of skirts and sleeves
 - Cut belts of various widths from muslin or paper.
 - Place them at the waistline, above the waistline,

and below the waistline on various students.

Decide which width and location is most becoming

Cut pockets of different sizes and shapes. Pin them in various positions, and note the effect on the figure

Study pictures in books and fashion magazines to find examples of good proportion in any one of the following: (a) bodice to skirt; (b) width of collar to shoulder; (c) length of boleros, jackets, and boxy coats to the total costume; or (d) length to width of sleeves

Step 3: Collect data needed to solve the problem. Students carry out the experiments in Step 2 and draw conclusions of what was learned in each

Step 4: Test these conclusions by further experimentation on different figure types

Step 5: Select the correct solution by deciding upon the best proportion for each figure type

The use of case study method

A case study is a worthwhile method to employ occasionally because it provides excellent opportunity for developing good habits of critical thinking. A good case study is also an excellent means of teaching concepts clearly.

Burton defines a case as, "a detailed account of events leading up to some type of different problem. The written or printed summary brings realistic detail to the student through which he can project himself into the situation and see the issues vividly."

The suggestions for case studies may come from many different sources. The teacher will find the textbook an excellent source from which to draw case studies. There is great advantage in drawing from the textbook because by so doing the text material is vitalized by being applied to a real life situation which the student shares vicariously. Another advantage is that in developing the case study the student will find in the text information which definitely and specifically applies to the case.

Two examples developed from material in Guide to Modern Clothing are suggestive of the way case studies may be based on a textbook. One is based on the chart on page 213; the other on Learning Experience 26 on page 218.

Case study from a chart

Carol has been following a program of weight reduction and has lost so much weight that many of her clothes no longer fit her satisfactorily. She is trying to decide whether or not to do the major remodeling that the garments would require. What suggestions can be given Carol which will help her in making her decision? Are there questions that would help her determine the advisability of major remodeling?

It would be expected that the class would formulate a series of questions similar to those in the Chart:

HOW TO DETERMINE ADVISABILITY OF MAJOR REMODELING

1. Does pulling on the grain reveal sufficient strength in the fabric?
2. Will there be enough fabric for a new garment?
3. Will additional fabric, findings, or trimmings be needed?
4. May the wrong side of the fabric be used for the right side?
5. Will the new garment be useful in my present wardrobe?
6. Can I be reasonably sure that the results will be satisfactory?
7. Will it be advisable to dye the fabric?
8. Do I have the ability to do the necessary remodeling?
9. About how much time will be required?
10. Do I have time to remodel the garment?
11. How much would new fabric or a new garment cost?
12. Do I have money for a new garment?

Case study from a Learning Experience

Sue is planning a week's vacation with a friend at her summer cottage on a small lake where the principal activities are swimming and boating. She will travel by car with several other girls and spend one night at a motel en route. Because of limited space, each girl has agreed to limit her luggage to one suitcase. Can we help Sue in her planning by deciding what clothes and other items she will need, and show her how they may be packed in her suitcase so that they will not be wrinkled and so the ones she needs for the overnight stop can be removed without disturbing the other articles?

In studying this case the class would be expected to read the chapter on "Wardrobe Planning" and plan an appropriate wardrobe by ensembles for Sue's anticipated activities. The chart, "Fifteen Tips for Travel Clothes" on page 122 will be particularly helpful. They would also need to study the chapter, "Caring for Your Clothes," for suggestions on the care of clothing while traveling. A demonstration of packing a suitcase by layers as illustrated on page 215 will be of general interest to the class as well as an aid to Sue in solving her problems.

Application of principles of science and art

No one needs to be reminded that we are living in a world of science--that everyday life, including every phase of home living, is affected in some way by current scientific developments.

Important as it is to understand the principles of science, it is just

as important to understand and apply the principles of art. Through the arts standards of values are developed, concepts of aesthetic appreciations are formed, and life is enriched. A knowledge and understanding of both science and art are necessary for the full development of the individual.

In the booklet of the National Association of Secondary School Principals, The Arts in the Comprehensive Secondary School, it is stated:

All subjects are important in the race for human survival and progress. Neither an outstanding nation nor a worthy individual can be intellectually mature and aesthetically impoverished.

Home economics centers on helping students to develop abilities and attitudes needed in home and family life. These abilities involve understandings basic to making the decisions that relate to the development of individuals and the use of material resources to achieve family goals. Such understandings require ability to apply principles from art as well as from social, physical, and biological sciences, and from home economics research. Knowledge from these various fields is integrated as students learn to solve problems of individuals, families, and communities. Art is an element that runs through each of the areas of instruction in home economics.

In the subject area of clothing the scientific and artistic principles combine harmoniously. It would be impossible to teach clothing effectively without using these principles. Indeed it would be impossible to teach the subject effectively without integrating the two. An understanding of principles helps students develop concepts and generalizations. These will carry over into everyday living to be applied in a wide variety of situations and to be used as a base for expanding knowledge. In reality principles are not necessarily based upon a fundamental truth or a basic law. They can deal with the application of knowledge and technical skill, including behavioral as well as the physical sciences.

In Volume VI, No. 4, Dr. Dorothy Keenan has set up a form for applying principles to course content in the area of foods which is equally satisfactory in the area of clothing.

<u>Principle</u>	<u>Application to Clothing</u>	<u>Indicated Behavior</u>
Rhythm is the feeling of movement	The repetition of lines or colors directs the eye from one part of the costume to another	Repeat lines in pleats, tucks, rows of buttons, etc. Repeat one of the colors of a printed fabric in the accessories. Radiate gathers in a bodice from a circular yoke Join opposing lines by a curve. Graduate size from small to large, or color from light to dark

<u>Principle</u>	<u>Application to Clothing</u>	<u>Indicated Behavior</u>
Color affects color	Colors worn together affect each other. The color of clothing affects personal clothing	Complementary colors used together in a costume intensify each other. Use complementary colors to emphasize skin tone. Use hues lighter and darker than the hair to emphasize hair color. Use colors that repeat eye color to make eyes predominate
Protein is coagulated by heat	Stains from protein are set in fabric by heat	Sponge stains from egg, blood, or meat juice with cold, not hot, water. Avoid pressing over these stains
Thermoplastic fibers are softened by heat	Fabrics made of thermoplastic fibers are damaged by high temperatures	Press fabrics made of thermoplastic fibers at low temperature setting. Wash in cold or lukewarm water. Dry away from heat

Questions

No single procedure is more frequently used in the classroom than that of asking questions. The primary purpose of all questioning should be to aid, motivate, and stimulate student thinking. Questions may originate with either the students or the teacher.

In the article "Experimentation in the Teaching of Foods," Volume VI, No. 4, of Illinois Teacher, Dr. Keenan has discussed "inquiry training," a technique being researched at the University of Illinois. She says, "The idea behind inquiry training is to help students develop the technique of asking productive questions--of carrying on the type of investigation procedures that are necessary for the self-discovery of relationships. The assumption is that children who start with the facts and work out their own generalizations do a better job of learning than if the generalizations and concepts are handed to them ready-made. In addition to facts and generalizations, they are learning how to assemble facts, hypothesize generalizations, and test these hypotheses."

It is the teacher's responsibility to create an atmosphere in the classroom in which students will feel free to ask questions and develop their own generalizations. Proper inquiry training will considerably reduce to great advantage the ninety-seven per cent which has been revealed by survey as the proportion of questions asked by the teacher. There will, however, always be a need for questions by the teacher.

When teachers formulate and properly use the right kind of questions they serve a variety of purposes.

* To motivate and stimulate

- * To initiate new ideas and new areas of learning
- * To guide research
- * To emphasize significant facts, principles, or relationships
- * To organize the progress of thinking in order to draw meaningful conclusions
- * To help students determine sequential steps in a procedure
- * To summarize and clarify information as a basis for formulating principles and generalizations

A good teacher will utilize as many types of questions as are appropriate for the subject matter field. At least twenty types are generally recognized. One or any number of the different types of questions, either written or oral, may be employed in a single class presentation.

In formulating the question it is very important that the chief action words in statements of what the pupils are to do should be distinctive and meaningful. Often this indicates the type of question that is being asked, such as select, compare, explain, state, classify. Other words which do not specifically indicate type that may also be desirable are interpret, justify, relate, evaluate.

Evaluation techniques

Evaluation is an essential part of the learning process in all phases of education. There are many purposes for evaluating and many methods, techniques, and devices by which evaluation may be made. The teacher must determine the method, technique, or device which will best achieve the purpose of the evaluation. Burton, Kimball, and Wing list four general purposes of evaluation to be considered as (1) clarification of instructional objectives, (2) assessment of knowledge and skills, (3) motivation, and (4) improvement of instruction.

Some measurement of factual knowledge may be necessary but the measurement of the ability to think which will result in changed behavior is even more important. Evaluating critical thinking in clothing is demanding but can be successfully done if the knowledge, behavior, and attitudes that characterize critical thinking in clothing are clearly defined. It is the teacher's task to interpret, modify, elaborate and implement these for both herself and her students. Evaluation is most valuable when it is an integral part of learning. It must be a constant and continuing part of every learning process. From the standpoint of the student, self-evaluation contributes most to her individual development because it

- * Stimulates independent critical thinking
- * Provides means for measuring an individual's progress
- * Provides opportunity for comparing progress with others

- * Makes possible progress according to an individual's capabilities at her own rate
- * Is a guide for further procedure
- * Aids in forming judgment and determining courses of action

Tests which are developed by the teacher to suit the objectives of a course and which are adjusted to the personnel of the class will always be among the most effective means of evaluating the teaching and the learning in any particular situation. Check lists, score cards, standards of quality, rules of procedure, and summaries of information are all other means of evaluating. They may be developed by the teacher or the student, or as a cooperative endeavor by both. Many such devices have been provided in Guide to Modern Clothing which may be used just as they appear or adapted to meet the special needs of a particular class or individual student. Some of the many types of evaluation devices are:

Tests. Carefully developed traditional essay or objective type of written tests are a stimulus to thinking. In addition, practical tests have special significance in clothing because they make possible the application and relation of principles learned.

Score cards. The quality of a technique or process may be quickly checked by means of a score card. For ease of use, a score card should be as simple as possible, but a detailed explanation of the score must accompany it.

Check lists. Because they may be used easily and quickly and may be adapted to many phases of the subject of clothing, check lists remain a popular evaluation device. Thinking takes place both in the developing and in the using of a check list and neither value should be neglected. Development of a check list as a normative unit is discussed on page 263. It is best to use the numerous check lists in Guide to Modern Clothing for reference after the idea has been initiated in class discussion. Check lists that may be suggestive as to form and subject matter are:

Check List for Buying a Skirt (page 160)

Check List for Workmanship on Ready-Made Garments (page 159)

Check List for Shopping Manners (page 149)

Charts. Another form of evaluation device is a chart of the type "How to Determine Advisability of Major Remodeling," on page 22.

Other examples of evaluation charts are:

Standards of Fit for a Blouse or Bodice (page 254)

Helpful Lines for Different Types of Girls (page 43)

Rules for Placing Pattern Pieces (page 343)

Illustrations. Pictures, drawings, and diagrams are good evaluation devices because they are visual means of comparison. All of the photographs and drawings which illustrate sewing techniques in Guide to Modern Clothing are excellent means of comparing work in

progress with a desirable standard. Some other examples of illustrations that may be used in a similar way are:

- A Sewing Center (page 231)
- Key Grain Lines (page 350)
- Standards of Fit (page 352)
- To Pack a Suitcase by Layers (page 215)

Work sheets. Some forms of progress work sheets outline and guide the work in process as well as evaluate the work done. These may be based on the instructions for making a project, or they may be lists, such as the lists of new learnings at the beginning of each of the project chapters in Guide to Modern Clothing.

Types of Units

The unit is a convenient classroom method for organizing subject matter content and learning experiences. The learner's attention is focused within the framework of the unit so that effective thinking can be done. Thus it is a means by which students will learn to think. This is determined by the way the unit is carried out.

Several types of units are generally recognized, though in practice there will be overlapping and interrelating of the different types. The three large divisions are problem-solving units, normative units, and units of criticism. All three types of units may be found in any one of the specific areas of clothing. A particular segment of subject matter may be organized as one or another type of unit, depending upon the classroom situation. The same goals may be the objective and the same learning may take place in the different types of units. Some areas of subject matter lend themselves more naturally to one type or another. As with different teaching procedures, a variety of types will be more stimulating and arouse greater interest.

Problem solving units

The great majority of units are of the problem solving type. The solving of problems occurs in all thinking, but problem solving is conventionally thought of mainly in connection with the sciences and practical, real life problems. Being a concern of everyday living, the clothing of an individual presents a continuing series of problems to be solved. Therefore in the study of clothing there will be many problem solving units.

Problem solving units may deal with (1) explanation, (2) discovery, (3) verification, or (4) weighing of evidence where experimentation ordinarily could not be used. The steps in the organization of the units given here are from Burton, et al. Examples are based on the chapter "Buying Your Clothes" in the textbook.

Units of Explanation:

The object of a unit of explanation is to find the cause and understand the basic principles involved in the problem.

- a. The problem is defined, analyzed into subproblems and questions if necessary
- b. Hypotheses (preferably several) are developed
- c. The hypotheses are tested:
 - 1) Elaborated through reasoning
 - 2) Through collection of data
 - 3) Through experimental reproduction or production of data
- d. Conclusion is drawn on the basis of reasoning and the data collected through experimentation

An example of an explanatory unit in clothing might be a research project on services that protect the consumer. Use of the chart "Services that Protect the Consumer," on pages 181-182 in the text could serve as a guide for further investigation.

Units of discovery:

The object of a unit of discovery is to develop a new generalization or a new process:

- a. The problem is stated and examined, subproblems listed when necessary
- b. Various suggested processes (hypotheses) are stated
- c. The suggestions (hypotheses) are tried out experimentally
- d. Testing here is usually a very long verification process

An example of a discovery unit in clothing would be discovering the value of accessories when wisely used in the wardrobe. The problem will include the evaluating of the accessories themselves and their use by the individual in her wardrobe. Standards for accessories are discussed on pages 175-180 of the text; accessories for different figure types are illustrated on page 178.

Units of verification:

Units of verification deal with checking and testing to prove or disprove the hypotheses and conclusions presented

- a. The problem is defined operationally; it is often clearly before the individual or group at the start
- b. Little or no hypothesis enters this type of problem; the null hypothesis is often used
- c. An experimental design is evolved
- d. Evaluation is nearly always statistical, or quantitative
- e. Conclusions grow out of the statistical summary or quantitative statement--usually the last statement therein

An example of a verification unit in clothing is a unit on the ways of paying for merchandise. This should lead to conclusions that may become guiding principles for buying clothing. See pages 151-152 of the text for suggestions.

Units of evidence:

Evidential units deal with problems where the decision for a plan of action must be determined by weighing the evidence that is available. This must be done by a thought process without any experimentation to verify the wisdom of the choice. The decision is final and nonrepeatable.

The solution of many everyday problems must be evidential, such as choosing a college, changing position, making vacation plans, etc. In clothing many decisions must be based on evidence. The buying of clothing is usually this type of decision. For example, consider a unit on standards for buying outer garments. The subject matter in this unit might include the qualities to look for in any garment, general standards for clothing, and standards for specific garments. Refer to the text, charts and illustrations on pages 152-165.

Normative units

Group thinking is the characteristic feature in normative units. The purpose of such units according to Smith, Stanley, and Shores is "to enable the members of the group to learn, in cooperation with other persons, how to think through issues in the interests of common action and the common good."

A normative unit provides a democratic method of solving problems that are of concern to the group. Decisions are reached by free discussion and the interactions of all members of the group--individuals of all types and of all levels of insight. The group discussion must be orderly and have continuity, the control being exercised by the problem itself, rather than by a chairman or by directives. Frequent summaries and tentative conclusions during the discussion help formulate the final consensus.

A particularly good example of a normative unit is "Wise Shopping." In class discussion the standards of wise shopping can be formulated. These might include when to shop, how to shop, and where to shop. A check list on shopping manners might be developed to emphasize courtesy when shopping. Rules could be formulated regarding what to wear when you try on clothes. Comparisons can be made between kinds of stores and ways to pay for merchandise. All of these will be a basis for subsequent individual action. The greatest amount of thinking will be done if the group goes as far as they can in considering each of these phases of wise shopping before a reading assignment in the textbook is made. Afterwards pages 146-156 of the text may be used as a check to evaluate the group's thinking.

Units of criticism

According to Burton, in units of criticism the problem is "to determine whether a statement heard or read, or made by oneself, has sufficient basis to be valid, hence acceptable." Obviously, this demands a critical attitude with emphasis on critical scrutiny and critical judgment.

In the chapter, "Buying Your Clothes," a unit of criticism could be

based upon the Learning Experience number five, on page 183, "Bring in advertisements for clothing from newspapers and magazines. Evaluate the ads from the standpoint of value to the consumer, distinguishing between descriptive and factual information." In making the assignment, the teacher might find it helpful to have the class study the advertisement on page 180 which is an illustration of an informative ad. If the evaluation of the ads are shared with all members of the group, all will be better able to make a judgment of validity and to act according to the judgment. The consequences of a judgment in the case of advertisements will be ongoing and so cannot be noted immediately.

A sample unit

The following sample unit is given to show how a unit may be developed from a Learning Experience. The one used is number seventeen on page 145, "Investigate the cost of having a store, a dressmaker, or a tailor make alterations on ready-to-wear garments. Report to the class the cost of as many of the following alterations as you can get information on: (a) changing a hem; (b) re-setting a sleeve; (c) correcting the location, length, or slant of darts; (d) changing the waistline of a dress or the band of a skirt; and (e) replacing a zipper."

To introduce and motivate the unit a brief case study is given.

Introduce the unit:

Marie wants to buy a new skirt. She has found a pleated wool skirt that she likes very much. Because Marie is taller than average the skirt is too short and would have to be lengthened to make it wearable for her. What should Marie do?

Other class members may have need for different alterations in garments which they will be planning to buy. All are interested in investigating the cost of having alterations made. Therefore, each can work on her problem simultaneously with Marie so that the details of the information obtained can be assembled for determining principles and forming generalizations.

Identify the problem:

The main issue in Marie's problem is to decide where she can have the alteration made at the lowest price. This will involve an investigation of the places that are available for having alterations made and what each would charge for lengthening the pleated wool skirt. In order to understand Marie's problem we must make certain basic assumptions:

- * Marie doesn't feel capable of making the alteration herself
- * Marie's mother or others at home cannot make the alteration
- * There is wide enough hem to permit lengthening

* Crease lines of pleats can be eliminated

* Marie is willing to buy the skirt if she can have the alterations made at reasonable cost

Formulate possible solutions:

Marie knows that there are three places in the neighborhood where she can have the alteration made. She may have it done at the store, have a tailor do it, or take it to a dressmaker.

Collect pertinent available facts:

Marie knows only the charge that the store will make for doing the work. She sets out to secure the charge the tailor and the dressmaker would make. Other members of the group do likewise for their needed alterations.

CHARGES FOR ALTERATIONS

Change	Store Price	Dressmaker Price	Tailor Price
Hem	\$5.00 to \$7.00	\$3.00 to \$5.00	\$4.00 to \$6.00
Sleeve			
Darts			
Waistline			
Waistband			
Zipper			

Evaluate data collected:

Factors in Marie's problem which should be considered when comparing the three places are:

- * Cost
- * Time required for the work to be done
- * Convenience to the worker
- * Quality of work

Select correct solution:

Marie decides to buy the skirt and have the tailor make the alteration. The dressmaker's work would be satisfactory and her price is lower, but she would not have any time to alter the skirt for several weeks. Marie wishes to wear the skirt for a special occasion only one week in advance and the tailor can do it in three or four days.

From this experience Marie has learned an important basic principle regarding services: because all services vary in type and cost, a comparison of possibilities is advisable. This principle will apply to other services in regard to clothing--cleaning, laundry, and storage establishments and different kinds of stores.

Form generalizations:

The final step in an evaluation of the solution arrived at by Marie is drawing conclusions in the form of generalizations that can be carried over into the home and community.

The formulating of generalizations is high level thinking and cannot be participated in equally by all members of a group. However, each individual should arrive at some generalization which will help her apply the learning in other situations. Questions such as the following will help Marie in her thinking about the generalizations:

- What generalizations might be formulated from the experience?
- Has there been sufficient evidence in the form of facts and principles to justify the generalizations?
- Have the generalizations been carefully worded so as to be clearly understood?
- Are the generalizations applicable to a number of situations?

Generalizations which might be formulated from this unit are:

1. Because of competition between businesses, prices, products, and services vary widely.
2. As competition increases the value of comparison becomes more important and more necessary.
3. The cost of service should be considered when planning one's budget.

Learning Experiences to Develop Thinking

A valuable enrichment for any course in clothing may come from a variety of learning experiences. An experience, as the term is here used, is not merely an activity but rather a plan of action which is accompanied by a critical examination, interpretation, and evaluation of facts as a basis for forming judgments and making decisions. Such a process is a "learning experience."

Learning experiences may be of many different kinds. They may be for the individual, a small group, or the entire class. They may take place in the class, elsewhere in the school, at home, or in the community. They may take a short or a long period of time--a few minutes, a class period, an entire unit. Variety is desirable to meet the needs, interests, and abilities of individuals. The choice of learning experiences to be included in any teaching program will depend upon the local situation as well as class personnel. If the student is to be taught how to think effectively by means of a learning experience, the choice should be guided and the experience supervised by the teacher.

In Guide to Modern Clothing the learning experiences are grouped at the end of each of the first six chapters, according to the division of the subject matter within the chapter. Those given here have been selected for the purpose of illustration.

Learning experiences according to types of units

The types of units have been described and illustrated on pages 261 to 266. The learning experiences given here have been chosen to illustrate each of the different types of units.

Learning experiences for problem solving units

Set up a routine to care for your skin as follows: (a) decide what type of skin you have and determine the best method of cleansing it; (b) if you have a skin problem, set up a routine for treatment of the problem. Follow through with the planned routine for several weeks. If the results are not satisfactory, change the routine until there is improvement.

Choose a new hair style by first determining the shape of your face and then trying several hair styles for your type of face. (Refer to the chart on page eighteen in the text.) Decide on a style that is especially becoming to you.

From some color source establish a dominant color around which you will plan a wardrobe for yourself for a particular season. Indicate the basic color, the harmonizing color, and the color accent. Indicate the plain, textured, and designed fabrics. Distribute these in terms of dark and light, bright and grayed, solid and textured, plain and patterned on the various garments, trims, and accessories. Make your plan visual by using swatches of colored fabrics, colored paper, paints, and crayons.

Learning experiences for normative units

Have a panel discussion of good grooming as it pertains to leadership. Consider the leaders in your school, and determine the qualities of good grooming which contribute to their leadership.

After viewing a film or filmstrip on the subject of clothing for a family, discuss the factors that will determine what is your fair share of the family's clothing budget. Decide what you can do to make the best use of the money you have to spend for clothing.

Learning experiences for units of criticism

Have several girls wear dresses similar in style and fabric but with different accessories, and have class members evaluate the costume from the standpoint of good taste for specific occasions, such as for school or for parties.

Bring to class for evaluation and comparison a ready-to-wear garment in your wardrobe that you believe shows good workmanship and one that has been poorly constructed. Tell why you think one shows better workmanship than the other and what the basic differences are in the way the two garments have been made.

Plan a weekly schedule for your activities, allowing time for care and repair of clothes. After following the plan for several weeks, decide

whether there are advantages in having a definite time for taking care of your clothes. Compare your findings with those of other members of the class.

Learning experiences for special groups

In most clothing classes the students will vary in interests, abilities, and cultural backgrounds. A knowledge of these factors is essential for teaching. Whatever the type of learning experience it must be selected with these factors in mind. Sometimes it is possible for individuals or groups to work on different experiences. At other times it may be practical for the entire class to engage in the same experience but at different levels and with varying standards of achievement expected.

For the gifted:

The girl of greater than average ability or one who is capable of independent study may choose learning experiences which will challenge her ability because they are more difficult, broader in scope, and greater in depth. Some such experiences follow:

Work with a committee to arrange a bulletin-board display of labels, fibers, and fabrics illustrating the sixteen different groups of man-made fibers which must be labeled according to the Textile Fiber Products Identification Act.

Set up an exhibit for the school display case of a well-planned ensemble for a stated activity in which girls in your school are likely to engage. Example: clothes to wear when (a) representing the school at an all-city conference, (b) attending the senior prom, or (c) participating in a school assembly program.

Help the school librarian plan and set up an exhibit of pamphlets, books, and magazines which provide reliable consumer information.

For the slow learner:

Some students may be slow learners because of less than average ability, a physical handicap, or a language difficulty. All of these need individual help and close supervision. Many will profit from the same experiences that might be selected for the average student if certain limitations are permitted. Experiences which relate closely to their personal life will be the most effective. Experiences that involve actual objects which the learner observes or handles help in associating ideas with the unknown or the unexperienced situation.

As a class, develop a check list on good grooming habits. Use the check list for one month. Note any ways in which improved grooming has increased your self-confidence.

Make an analytical study of yourself, using the "Self-Analysis Chart" on page thirty-five of the text; write a report of your findings.

Make a list of the different types of activities in which you take part. Clip from fashion magazines pictures which illustrate good outfits for each of your activities.

Make a shopping list for all the items you need for a garment you plan to make at school or at home. Present your list to your teacher for approval before you shop.

Before you go to bed tonight, try assembling the clothes and accessories you plan to wear tomorrow. Note the time it takes you to do this. Note also whether you feel more at ease when you start to school than you have on other days. Report your experience to the class.

For students with special interests:

There are students in most classes who are interested in some particular phase of clothing or in certain types of activities. These students will be stimulated by and will enjoy experiences which give them an opportunity to explore an area of subject matter and to develop ability and skill along the lines of their special interest.

Plan to have a professional model demonstrate to the class proper ways of standing, walking, sitting, going up and down stairs, etc. Try to imitate her, and ask her to correct any mistakes you make. Practice these activities until you can do them gracefully and naturally. After several weeks, let the class evaluate your accomplishment.

Select two garment designs which would flatter girls of each of the different figure types, using the suggestions in the chart "Helpful Lines for Different Types of Girls" on page forty-three in the text. Arrange a bulletin board display of these designs.

Collect fabric swatches for a poster or bulletin-board display to illustrate as many of the following kinds of designs as possible: (a) stylized, decorative, and abstract designs; (b) designs derived from primitive or peasant art sources; and (c) attractive arrangements of polka dots and plaids.

Divide the class into groups, and have each group spend a month obtaining information on the clothing needs of one of the following persons, and then report the findings to the class: (a) a baby, (b) a preschool child, (c) an eight-year-old boy, (d) a twelve-year-old girl, (e) a young teacher or secretary in an office, (f) a homemaker with two young children, (g) a college girl living away from home, or (h) an elderly person.

Invite a mother with children of preschool age to describe the types of clothing her children need. Have her tell the characteristics needed in fabrics, design, and workmanship for the various types.

Garment Construction to Develop Thinking

The construction of garments provides some of the most valuable experiences in thinking to be found in the clothing program. Growth in thinking ability develops best through experience, and thinking experiences are inherent in the manipulative processes of construction.

The recent tendency on the part of some home economics educators to minimize the importance of construction may possibly be revolt against the very narrow concept that construction is merely sewing. A broader concept leads to the realization that construction is much more than just the sewing that is involved in making a garment. It includes, also, all of the basic learning that relates to that garment in the wardrobe of a particular individual. It includes learnings as related to the management of time and money; to the use and care of fabrics; to the planning of garments, ensembles, and the entire wardrobe for the individual; to the selection of clothing based on artistic principles; to intelligent buying; to standards of dress and personal grooming.

The argument that construction is not practical for the average American girl because she is going to buy rather than make the clothes for herself and her family is a very narrow argument for not teaching construction. It fails to recognize the sum total of values the student will receive from learning to make clothes. Some of these values are:

- * A basis for the selection of ready-mades
 - Standards of workmanship and good fit
 - Judgment of service qualities
 - Factual knowledge for buying
- * Appreciation of the importance of clothing
 - Material values in the garment
 - Psychological values to the wearer
 - Social values
- * Satisfaction to the wearer
 - Individuality of style
 - Correct fit for special figure problems
- * Opportunity for creativity
- * Ability to alter and repair clothing
- * A means of extending monetary income

Another reason for the trend away from construction is failure to realize that in clothing as much, if not more than, in academic subjects, there is a wealth of opportunity to develop the ability to think and by so doing, contribute in a large measure to the intellectual advancement of the individual. According to Burton, the best way to develop the ability to think is by practice in thinking. In the area of clothing the problems that arise are very real and personal to the student. Real problems

challenge her powers of thinking to her maximum potential. The critical inquiry stimulated is genuine because the student wants to find the solution to the problem. She is therefore willing to self-regulate the freedom and discipline necessary to effective thinking.

The function of construction in the clothing program

Garment construction always has been and no doubt always will be an important part of any study of clothing. It is the motivating factor for the majority of students and therefore it should be used as the unifying element in the clothing program.

For motivation:

Surveys among students reveal that most of them elect courses in clothing because they have a genuine desire to learn to make their own clothes. This interest supplies the greatest possible motivation. According to Grambs and Iverson in Modern Methods in Secondary Education, "Good motivation is positive and based on learning situations that are sociologically and psychologically justifiable."

The best motivation arises within the student and is powerful--the "push" toward maximum effort. This is the kind of motivation that is naturally present when the student makes a garment. If the amount of learning is in proportion to the degree of interest as most educators agree, the opportunity for learning through clothing construction is maximum.

For the unifying element:

Since the motivation in construction is so natural and strong, it is practical to use the construction as the unifying element for the entire clothing program. It is logical to correlate with construction all of the subject-matter areas of clothing. Many learnings will be integrated in the processes of construction; others will be developed as supplementary or parallel experiences arising from interest aroused by the construction. For example, when the students make their first simple garments they are naturally interested in the cotton fabrics with which they are working. In a study of cotton fabrics their interest is extended to how the fabric was made, the buying of cotton garments, and their care. Similar studies of other fabrics will be pursued as the students progress in their construction projects.

For the construction of garments the authors of Guide to Modern Clothing have planned a series of projects that progress from the simple blouse to the more difficult coat, providing a gradual building process of learning construction techniques. A similar progression is logical for other learnings in regard to clothing. Thus the progression of construction projects provides a basic plan for a course in clothing.

The Unit Method of Clothing Construction

Dr. Helen Judy Bond has stated that, "Guide to Modern Clothing brings to the school program the first organized presentation of the Unit Method of Clothing Construction--the method by which garments can be made with the least expenditure of time, energy, and money to achieve the best appearance." In the Purpose quoted on pages 247-48 the method is referred to as the easiest, quickest, and most efficient.

The Unit Method of Construction is an organized way of making a garment unit by unit. The steps in the unit method are outlined in the chart below.

STEPS IN THE UNIT METHOD OF CONSTRUCTION

1. Complete each unit as far as possible before starting another unit
2. Join the units when two have been completed
3. Complete another unit and join it to the others, continuing the procedure until all the units are joined
4. Finish all further construction details
5. Give the garment a final pressing

Advantages of the Unit Method

The Unit Method of Construction has many advantages over other methods of sewing.

- * It is a systematic way of working
- * The work is simplified
- * Time is saved in each step
- * Confusion of not knowing how and what to do is lessened
- * Learning is easy because it is gradual
- * Ease of learning makes sewing a satisfactory experience
- * Produces attractive garments with a look of quality
- * Short periods of time may be used to good advantage
- * Shopworn appearance is avoided by a minimum of handling

Principles of the Unit Method

Certain principles are fundamental to, and characteristic of, the Unit Method and are basic to the making of all garments. The sum total of these is what makes the Unit Method different from other methods. These principles are:

The work is planned.

A progression of learning is followed.

A garment is constructed unit by unit.

The grain of fabric is used as the guide for preparing the fabric, laying the pattern, pinning, cutting, stitching, fitting, and pressing.

Machine sewing is emphasized.

A minimum of basting is done.

Careful pressing is stressed.

Correct fit is obtained by cutting to fit and fitting the garment.

Continuous evaluation is made.

Unit Method versus Traditional Method

An independent study of contemporary and traditional methods of clothing construction was conducted in 1961 by Geneva Jones for the purpose of comparison. Samples of details were constructed according to the two methods and were evaluated according to:

1. Number of steps for each sample
2. Ease of construction operation
3. Appearance of constructed detail
4. Time involved in each sample

The number of steps in each of the details of construction made by the contemporary method was equal or less than the number of steps required by the traditional method with the one exception of making a collar without an interfacing which required four steps instead of two.

The ease of operation in every instance of the contemporary was "easy" as contrasted with either "fairly easy" or "difficult" in the traditional.

The appearance of all samples made by the contemporary method exceeded that of those made by the traditional method except in three cases which were scored identically.

The time consumed by the traditional method was greater in all but two instances when the contemporary method required two minutes more. In all other cases the time required for the traditional method was greater, in two cases a full hour greater, as contrasted to thirty minutes in one instance and forty minutes in the other by the contemporary method.

In addition to these comparisons, Miss Jones included the following in her conclusions: (1) Contemporary method should be taught when the purpose of the training is strictly for creative expression, for basic knowledge of sewing, or for the meeting of economic needs. (2) It is psychologically correct for a beginner to see early progress which is possible with unit construction, and thus be encouraged toward other accomplishments. (3) Hand basting and pinning can be kept to the minimum though the more difficult fabrics (velvet, satin, chiffon, loose weave, etc.) require more pinning and basting than do the more stabilized fabrics.

Thinking in clothing construction

For experiences to be most lifelike and meaningful students need to work with real things. The construction of garments is the part of the clothing program that meets this need.

There is no substitute for real things--materials and equipment--in solving the problems that arise in clothing. The laboratory experience is limited, but, properly guided to understand principles and make generalizations, the student can envision the broader applications that may be made of her learning.

The teacher has the same responsibilities, in teaching the construction of garments, for stimulating and guiding thinking that have been listed on page 242 for the entire clothing program.

The objective of helping the student develop the ability to think independently and effectively is the same regardless of the learning experience. This ability can be developed as well in learning to construct garments as in learning to buy clothes or to plan a wardrobe.

With this objective in mind, the teacher will choose and use the methods, techniques, and devices that will contribute most in a particular class situation.

Methods for teaching clothing construction

As has already been mentioned, construction may well serve as the unifying element in a study of clothing. From the construction project many types of units and a variety of learning experiences may develop. For all of these the textbook is the principal guide. One of its values is that new terms are defined. The importance of such definition as related to thinking is discussed on page 276.

In no phase of the study of clothing are aids any more important than in construction. Suggestions for the use of various teaching aids in a clothing program are given later in this issue.

A variety of procedures in teaching clothing construction may be employed. Many of these have already been discussed; while the examples given are in areas other than construction, the same procedures can be applied to construction. Other procedures are of unique value in teaching the construction of garments. Among these are demonstrations and step-by-step models of techniques.

The best possible way of initiating a new technique is with a demonstration. It will be a means of defining terms and conveying information in the teaching of a skill more effectively than other procedures do. It may be presented by the teacher or an advanced student. Some of the particular values of demonstrations are:

- Arouse interest
- Give overview of an entire process

- Focus attention on and dramatize important basic steps
- Establish a sequence of procedure
- Set standards of performance
- Suggest management of time, energy, and materials
- Reduce mistakes and avoid misinterpretations
- Reduce learning time
- Adapt to all ability levels singly or collectively
- Point up principles and relationships
- Promote transfer of learning
- Socialize learning

Successful teaching of construction requires step-by-step models of techniques. The authors of Guide have used such models for the photographs which accompany the instructions for the techniques used to make garments. The use by the student of such realistic illustrations and written directions logically follows the demonstration. But the learning will be even easier if the student has a real model to refer to while working. The advantage of the model over the illustration is that it can be handled, and it is an exact duplicate of the student's work at that stage of progress.

In order that models may be used to full advantage, they should be:

- Precisely made
- Easily accessible
- Mounted, but easy to handle
- Maintained in good condition
- Labeled, and, where textbook is not available, accompanied by written instructions

The teacher will need to train students in the use of models. Students should be shown how to correlate the written instructions with the models and encouraged to examine them frequently. The more the student uses these step-by-step models, the more her progress in logical thinking will be and the more independent will she become. Models also make it possible for the student to get needed help immediately without having to wait for the teacher.

Processes of thinking

Many of the processes of thinking can be taught in clothing construction. Some of this is done almost unconsciously, but it is more effectively taught when consciously planned for. The following examples of how processes of thinking can be carried out in the teaching of construction are suggestive:

Helping the student develop a vocabulary of words used in construction is comprehending and using language.

As students carry through the steps in the construction of a garment they are thinking sequentially.

There is great opportunity for making comparisons in clothing construction. Examples are in the student's comparing her work with step-by-step models and comparing a technique which has been learned on a garment made previously.

Students identify problems and make decisions as they handle fabrics, as they adjust patterns to individual figures, as they choose techniques of sewing and pressing, etc.

Progression of learning

The principle of logical progression is not new as a plan of learning. It is applied to clothing construction by beginning with the easiest and simplest and progressing to the most complicated and difficult project. As has already been pointed out on page 248, this is the plan used in the Guide.

On the first simple project there will be some basic learnings, and as the student progresses through succeeding garments she will use on each some Repeat Learnings (those with which she is already familiar) and some New Learnings (those used for the first time). Thus the learning is easy because it is a gradual and logical building process. Thinking is stimulated by the student's identifying her new problem, relating it to what she has already learned, and by planning what she is to do next.

The learnings are based on principles which when once understood can be applied in any similar situation. For example, when a student has learned the principle of staystitching--to hold the grain of the fabric in position--on her first project, she will understand that this principle applies on all succeeding garments. Such learning by principles is an economy of both time and effort.

A progression of learning makes it possible for each student to advance according to her own ability and initiative. It also makes possible individual activity and promotes independence in thought and action. The development of independence is in itself a progression--the more experience, the greater the independence.

Management in clothing construction

Many of the principles of good management should be incorporated into the teaching of clothing construction. They may be in relation to the efficient arrangement of equipment for sewing and pressing, the planning of work for the entire garment, or the completing of a unit before joining it to another unit. They may also be applied to the details of work on a garment, such as the cutting of a garment to fit the wearer; or the holding of one unit for pressing until other units are ready to be pressed, thus making only one trip to the pressing board and heating the iron only once for pressing several techniques.

Terms Defined for Effective Thinking

For effective thinking in regard to the problems involved in clothing, as in any other subject area, definition and understanding of the terms, words, and phrases used in relation to the subject are necessary. The words, terms, or phrases may be either new or unique in the meaning that is given them in this particular field. In any case they are the tools for thinking and must be used correctly if the thinking is to be effective.

Purposes of definition

Burton gives five specific purposes of definition:

1. "To remove ambiguity and vagueness"

As used in relation to clothing the term "value" may have different implications. In a discussion of color, value means the gradation from the darkest shade to the lightest tint; in buying it refers to the qualities of satisfaction obtained for the money spent; in planning a wardrobe the value relates to the satisfaction of a need that the garment will supply. Each of these meanings will need to be clarified.

2. "To introduce and explain new terms"

There are many new terms in clothing. In construction, stay-stitching, basting, slip-stitch, etc., are terms which are important. In the related areas such terms as Dacron, mercerize, wash-and-wear, etc., are new terms.

3. "To extend new meaning for an old term"

Much confusion arises from the fact that many familiar terms are given new meanings in a study of clothing. A few of these are unit, bias, rhythm, directional, grain, ply, blends, welt, progression of learning.

4. "To limit terms temporarily by stipulation"

A limitation of the meaning of words is exemplified by the definitions given on page 152 in Guide to Modern Clothing for the qualities to be considered when buying any garment. "Appeal is the quality which makes you like the garment. Comfort is the quality which makes you feel at ease in the garment. Satisfaction is the quality by which the garment fulfills your expectations in the use for which it is intended.

5. "For systematic building in science"

Preparing fabric for use is a learning process where terms must be understood to develop a systematic method of procedure. Some of the terms involved that require explanation are thread perfect, grain perfect, shrinking, raveling, correcting grain.

Errors in the use of definition

As essential as definition is, its incorrect use will confuse rather than promote effective thinking. Incorrect use may be either complete omission or errors in defining.

Each teacher must decide how much definition is needed for each class and for individuals in the class. New terms must always be noted and should be defined at the time of their first use. This principle has been followed throughout Guide to Modern Clothing. These definitions are available for review whenever needed by a quick reference to the index. For some groups frequent and continual redefinition will be necessary.

Even when the need for definition is recognized and attempted there may still be errors made. For accurate communication it is important that the meaning of the word with the stipulation for the subject matter area be understood.

Words used for defining must be simple and within the understanding of the people for whom the definition is being made. Definitions that are too elaborate or too involved only frustrate the student and retard thinking. Words should not be defined in their own terms, and care should be taken to avoid the use of synonyms with different implications of meanings.

Procedures for definition

The grade level, ability, and experience of the group being taught will determine the need, the extent, and the emphasis on definition. A group of high ability, broad experience, and extensive understanding of language will need less help in definition than will a group of less ability, limited experience, and less understanding of language. The contrast of these two will also determine the method of definition that will be effective. For the former, independent study or class discussion may be sufficient, while for the latter group detailed explanation, visual illustration, and much repetition may be required. Most classes include both of these groups and many individuals who fall between the two extremes. For these classes a combination of the two procedures will have to be resorted to.

The student of high ability may need only guidance and supervision in her individual quest for information. A student who has a particular interest in textiles or the application of the principles of design can find many new terms and the definitions of them through independent research.

For the student of extremely low ability the teacher must constantly take the responsibility of pointing out, explaining, and illustrating the terms that arise in the progress of the course.

For the mixed class and the average student, a variety of procedures will make the greatest contribution to the development of thinking on the part of individual students.

The textbook is, of course, the first source of reference. In the hands of each student it is quickly available for original discovery of definition and for review reference as needed. A good textbook may be expected to have definitions of the terms within the subject matter for the course for which the book was prepared. Pictures, charts, diagrams, etc., in a textbook all help give clearer understanding to word definitions. A textbook also has the advantage of unifying a class in their conception of the meaning of terms. This clarification stimulates communication and effective thinking.

Many procedures and devices aid in developing an understanding of definitions. Each teacher will want to experiment with different ideas within her own classes and evaluate the effectiveness of each. Some devices which have been used successfully are:

1. Word lists, preferably a cooperative compilation by students and teacher. A good way of making the list is by writing the words with a felt pen on newsprint paper as the list develops through class discussion. This method has the advantage over a blackboard list of being available for future reference.
2. Flash cards, an old but effective device. Significant words may be printed or formed with cut-out letters on cards or strips of paper to be used in the typical flash-card technique of review or to be placed strategically in the room as reminders during the learning of a technique. Some such words which might be used effectively in this way are "directional," "staystitch," "understitch," "identical grain."

3. Pictures and charts, available from many sources. Reference to the chart in the textbook or to wall charts provided by the pattern companies will visually define the different figure types. Any of the photographs in Guide to Modern Clothing which relate to a specific term will add to the clarity of the definition of the term. Examples are cushioning the hem on page 519, understitching on page 262, interfacing on page 511, unbalanced plaids on page 314, invisible machine hemming on page 260.
4. Models, discussion on page 284, to be used for student reference. In a more realistic way than pictures, models give meaning to new terms.
5. Demonstrations, either by the teacher or a qualified student. A demonstration is an effective way of introducing a new term.
6. Bulletin boards, to be carefully planned and prepared, changed frequently, and used in a variety of ways. Illustrations in text or reference book may be duplicated on a bulletin board with live materials replacing the photograph or drawing in the illustration. Some of the illustrations in Guide To Modern Clothing that could well be used in this way are "Terms Used in Stockings," on page 176, "Types of Weaves," on page 95, "Ways to make Fabric Thread Perfect," on page 323, "Uses of Machine Stitching," on pages 258-259. The term that is being defined may be superimposed on an actual sample of a garment or a piece of fabric. For example, the grain of fabric on page 225 or the different types of plaids on pages 314-315.
7. Flannel or magnetic boards, a tool of many uses. Word lists or illustrations of definitions may be displayed to advantage on a flannel or magnetic board.
8. Exhibits, loaned or contributed by commercial companies or assembled by either teacher or students. An exhibit provides a realistic presentation of a new term. Ideas for the exhibit frequently originate in the textbook, as the "Color Wheel and Harmonies" on page 36, "The combination of Fibers" on page 92, and "The Common Weaves" on page 93.

Definitions in Guide to Modern Clothing

The authors of Guide to Modern Clothing considered definitions so important that they have given them emphasis in two ways. First, each new term has been defined at the point in the text where it first appears; and second, where a number of terms relating to a given subject required definition, the terms have been grouped into chart form for quick and easy reference.

1. In the chapter, "Color and Design of Your Clothes," a chart on Terminology of Color Qualities and Characteristics has been given.
2. In the chapter, "The Fabrics You Wear," terms used in the Wool Products Labeling Act are defined in the chart Types of Wool.
3. In the chapter, "Buying Your Clothes," definitions are given in the chart Terms Used in Buying Hosiery. There are many other such charts.

A good example of a terminology chart is given in the chapter on the Unit Method of Construction where there are many terms with which girls are not familiar, but which must be understood as they are unique to the Unit Method.

Aids in Teaching Effective Thinking

In addition to the textbook there are many other aids which enrich the educational program, providing a broader, deeper, more precise coverage than is possible with only a textbook. Any of these may teach, but a combination of several results in learning which is superior to that obtained from any one used by itself. No longer is there any question on whether or not various media should be utilized; the decision is rather how they can be used most effectively and for what purpose.

Some of the most valuable aids in teaching clothing are films and filmstrips; models; reference materials such as graphics, charts, and library materials; and manipulative materials.

The preface of Instructional Materials by the Illinois Curriculum Program, lists the following principles as guides to the teacher in selection and use of any of these materials:

First, the wide variety of instructional materials available makes it mandatory that teachers be selective; the learning goals should determine a teacher's choice and use of instructional materials.

Second, many materials and media, when used in combination, greatly increase the possibility of achieving desired learning goals.

Third, that the instructional process can be enriched by using more extensively materials which are, or can be, made available.

Fourth, the increasing number of instructional materials offers new possibilities for creativity and experimentation in teaching.

Fifth, the teachers need to achieve greater proficiency in their abilities to evaluate, select, and use various instructional materials.

The teacher must determine which of the media are most appropriate at any particular time to promote the achievement of specific educational objectives. For example, a motion picture showing the production and manufacture of wool fabrics would be very meaningful at the time a class is selecting fabrics for a wool skirt, but would be much less significant if viewed when the class was working on cotton blouses.

Sometimes the choice will be limited by what is available or by the skill of the teacher in the handling of equipment. It is better to use efficiently that which is available and which the teacher can handle successfully than to be frustrated by not being able to get what is desired, or handicapped by lack of familiarity with what is available.

Motion picture films and filmstrips

The use of educational films with other instructional materials offers an efficient means for improved learning in a clothing laboratory. Properly handled, films can be a stimulus to thinking. As teaching aids, films have these distinct characteristics:

- * bring many kinds of experiences to the classroom
- * supplement and reinforce learnings from other experiences
- * focus group attention
- * provide information
- * teach skills
- * develop attitudes and appreciations
- * provide common experiences for students of different background
- * develop interest in further pursuit of topics
- * magnify or reduce objects and techniques as may be desirable
- * stimulate aesthetic appreciation

In addition to these values common to both types of films, each type has its own significant value. The motion picture combines sight in motion with sound. It gives a sensation of reality that can be duplicated only through actual experience. The filmstrips can be projected at any speed, held at a particular point, or turned back for review as desired. A library of filmstrips can be built up locally because of their comparatively low cost and, therefore, will be available at the proper time in the course and for frequent review.

Criteria for selection of films

It is the teacher's responsibility to select films and filmstrips that will contribute most to the educational objectives of the course. It is important to delineate between the content of a film and the purpose for using it, so the film may be chosen and utilized accordingly. The teacher must acquire a knowledge of sources and appraisals of the films available; however, she must be able to make the final evaluation herself. It is a good idea to make a written evaluation of films used to be kept with planning materials for future reference. A film or filmstrip should always be selected according to how well it will meet its intended function.

According to Wittich and Schuller in Audio-Visual Materials, the following factors should be considered in selection:

Accuracy and authenticity of the information

Suitability for the grade level in terms of vocabulary, pace, and general understandability

Mechanical excellence of sound, vocabulary, color, and other general "see and hear" factors

Such questions as the following are additional guides in selection:

Will this film present the subject matter more effectively than could be done by some other method?

Is the content well organized with clear labels and captions?

Are student participation and critical thinking encouraged as opposed to "passive absorption" of facts?

What are the factors in regard to arranging for use: cost, time required for securing, time allowed before returning, showing time.

Teaching with films

Films are used in a variety of ways and for a variety of educational purposes. They may be used to introduce a new topic, to pose problems, to motivate, to answer questions, or to furnish information. There is no one best way of teaching with a film because so much depends upon the purpose for which a film will be shown and the conditions under which it will be shown. In A-V Instruction the following general steps are suggested:

1. Prepare yourself to use the film
2. Help the class develop readiness for seeing it
3. Encourage appropriate student participation during the film showing
4. Follow up the film showing with appropriate activities

In order to know what is in a film the teacher must preview it. During the preview consider the following:

- * Study ways you can adapt the film to your specific purposes
- * Decide on the main points and the key words of the film and determine how they may be emphasized for the class
- * Make out a list of key questions aimed at stimulating thought
- * Note where the film may be stopped for discussion
- * Plan activities which may grow out of the class viewing the film and decide how they can be organized for optimum comprehension
- * Select additional teaching materials which will supplement the showing of the film

Little student learning takes place when a film is shown without preparing the class for the showing. Steps which develop readiness and which may be varied in many ways are as follows:

1. Review with the class whatever they may know about the subject of the film and lead into what might be expected in it
2. List key words on the board and have the class learn their meanings before they view the film
3. Prepare a list of questions which may be answered in part or in full by the film. List these as a guide to viewing
4. Identify certain assignments for different students to note certain sections of the film particularly, in order to answer certain questions for which they are responsible
5. Some time prior to showing the film develop basic ideas that are covered in it by the use of some flat pictures or reading assignments

Before any film is shown the teacher should tell the class the title of the film and the reason it is being shown and what they are expected to learn from it. During the showing of a film, thinking is stimulated and maximum learning takes place when class participation is encouraged. This may be accomplished in several ways:

- * by class discussion after the showing of the film
- * by halting the showing at a logical breaking point to give opportunity for questions, discussion, comparisons, references to previous experiences, and/or summarization

- * by introducing other related teaching aids, for clarity of understanding
- * by showing the film twice--the first time continuously for a general overview of film content and organization, and then a second time with appropriate breaks for students to take notes on important points

Follow-up activities should always include a class discussion for the purpose of summarizing, for providing additional information, for vocabulary building, or discovering and clarifying misunderstandings. Other follow-up activities might include any of the following:

- * a field trip when the film has been in preparation for it
- * further research in the subject area of the film
- * a quick written or oral test covering significant points in the film
- * writing letters for additional information
- * inviting specialists to visit the classroom to supplement the ideas presented in the film
- * practice of the techniques presented in the film
- * arrangement of a bulletin board or an exhibit relating to the subject matter covered by the film
- * individual assignments on different phases of the film

Reference materials

Teachers should appreciate the importance of using graphics and reference materials with other appropriate instructional aids. A practical concept of graphics is given by Wittich and Schuller as "materials which communicate facts and ideas clearly and forcibly through a combination of drawings, words, and pictures." Reference materials include library books, periodicals, pamphlets, information leaflets, etc.

Graphics and charts

Both graphics and charts are effective means of presenting factual information in condensed summary form, quantitative information, clarification of words and symbols, steps in a process, relationships, classifications, and organization of information for reference or for individual application. In Guide to Modern Clothing both graphics and charts have been used for all these purposes. When used they may be referred to in the book itself; they may be projected on a screen for class presentation and discussion; they may be reproduced in enlarged form for poster, bulletin board, exhibit, or display; or they may be duplicated for individual student use. They might even provide suggestion or inspiration for similar original graphics to be developed by either the teacher or the student.

Library materials

As in any other subject, library materials are an important aid in the study of clothing. Students should be encouraged to use to full advantage the school and public library facilities in doing research and fulfilling assignments. Clothing teachers should make recommendations to librarians of books useful in the field. In addition to the general libraries, department and room libraries are convenient and promote greater use because of their ready accessibility.

Models

In no other subject area is there more opportunity to use real materials nor is there any area in which they have greater value in the learning process than in clothing. Three dimensional materials are more real to the student than writing or pictures because they have depth and substance and can be seen and handled. For this reason such materials should be used whenever the object of the lesson is promoted by the unique contribution that models make. There is no substitute for real things. The importance of using real things as teaching aids cannot be overemphasized. Having the models for students to observe, handle, discuss, and study is often the key to maximum learning in the area of clothing.

The value of models

The advantages of models over other audio-visual aids are:

- * Bring reality to the student in a conveniently observable form
- * Make it possible for the student to see relationships of parts to each other and to the whole, such as the completion of separate units being joined to construct a garment; or the steps in a process, such as the steps in the manufacture of a fabric
- * In construction, models give meaning to instruction and direction to the learning of skills
- * Set standards of workmanship, provide a guide for procedure which will minimize mistakes, and give a basis for comparison of the student's own attainment
- * Encourage independent endeavor because they are available for student reference as needed for original efforts or for review

The use of models

When models are properly used in a clothing class they contribute to the students' thinking in the solution of her problem because they give understanding of the problem itself and of what is involved in the solution.

Certain principles may be used as a guide for the effective use of models:

1. Models should supplement the textbook and other teaching materials. They are most effective when they are integrated with them. The use of models in teaching the construction of clothing was discussed on page 279.
2. Models should be visible by everyone if they are to be used for class instruction.
3. Models should be easily accessible for individual reference; therefore, they must be properly stored or systematically filed. For maximum usefulness, it must be possible for the student to handle a model for close inspection.

4. Models should first be shown at the time the unit of learning is presented to the class. They may be accompanied by explanation, other illustrations, demonstration, or assignments.
5. Models should be made with extreme accuracy in order to set a high standard of workmanship.
6. Models should give the correct concept of size, color, and shape. If not full size, a model should be near enough to full size to give the effect of realism. Models that are larger or smaller than the actual, of contrasting color for the sake of emphasis, or have details altered for clarity, may all be desirable at times. When any of these devices are used, distorted impressions can be avoided by proper use and explanation by the teacher. For example, in Guide to Modern Clothing, the stitching on the models was done with thread of color in contrast to the color of the fabric to emphasize it in photographs, but in step-by-step models to be used in the classroom, the stitching should be done with matching thread for the sake of realism.

Exhibits and mock-ups

Other highly effective three-dimensional teaching materials are exhibits and mock-ups. In the preparation these require careful planning, clear thinking, and much detailed work. When they are cooperative student projects there are valuable learnings for the student in addition to the information gained in regard to the subject matter of the exhibit. Some of these are a broader understanding of the subject matter, stimulation to further work or study, satisfaction of accomplishment by having contributed something worthwhile to class activities, initiation of creative thinking, and the advancement of visual communication of ideas.

Manipulative materials

Real things give substance and realism to classroom experiences. Having real things, full size or scale model, for students to observe, discuss, handle, and manipulate promotes maximum learning for practical application in real life situations. Manipulative materials have a number of specific values as teaching aids:

- * They exemplify application of principles
- * They serve as a means of individual investigation
- * They focus class attention in demonstrations
- * They provide opportunity for wide experimentation in a short period of time
- * They bring subject matter to life

Many manipulative materials are best if first used by the teacher in demonstration. In the demonstration is an opportunity for suggestion and direction regarding the later handling of the material by individual students. Efficiently done, this will minimize the close supervision that will be required in individual experimentation.

As valuable as manipulative materials are, there are some problems inherent in their use because of their nature. It takes time to build a collection of manipulative materials. Many require considerable time and effort to prepare; most involve more or less expense; some become out-dated quickly; and many require rather frequent replacement because of the wear and tear they receive in use. With all there is the problem of adequate and convenient storage. All of these matters will have to be considered in weighing the questions of how many and which manipulative materials will be provided.

Evaluation of commercial materials

Increasing quantities of instructional materials are being prepared by commercial sponsors. This creates a serious problem of wise selection and use. The American Association of School Administrators in the booklet Choosing Free Materials state, "Much of this material is educationally helpful . . . An important role of supplementary material is keeping available information current . . . They can provide added information that will enrich, supplement, and expand in greater detail the major principles and generalizations with which they deal primarily." All such material may, however, not be desirable or acceptable because all is not of equally good quality. To help home economics teachers, a list of characteristics of good teaching aids has been prepared by a joint committee of home economists in business and education and published by the U.S. Office of Education in the leaflet, Business Sponsored Teaching Aids.

TEACHING MATERIALS WITH EDUCATIONAL VALUE

1. Meet needs common to the group for which the material is intended
2. Add interest to the learning process
3. Supplement information available in reference books or present it in a more effective way
4. Help develop judgment and discrimination
5. Help develop initiative, self-direction, and resourcefulness
6. Are positive in approach
7. Emphasize standards consistent with individual and family well-being
8. Present information accurately and honestly without bias, deception, or exaggeration
9. Cite authority or sources of information
10. Present content that is
 - a. up-to-date and timely
 - b. about products rather than specific brands
 - c. well-organized
 - d. clear, concise, and easy to read
11. Present material in a form that is
 - a. well designed and illustrated, with good balance between pictures and text
 - b. easy to handle, display, and store

In the same leaflet, the following suggestions regarding the selection and use of teaching aids are given:

SELECTING AND USING TEACHING MATERIALS

1. Remember that more materials than a teacher and a class are able to evaluate and use with discrimination hamper rather than aid teaching.
2. Balance the number of teaching aids to be ordered against the relative importance of the subject in the teaching program.
3. Order sample copies to evaluate before ordering a supply.
4. Recognize that it is a teacher's responsibility to plan how the aid is to be used, for only she knows the home and community situation of the pupils.
5. Remember that from the company's standpoint, a quantity order is interpreted as an endorsement of the teaching aid.
6. Indiscriminate ordering is wasteful and costly to producers and consumers alike.
7. If a teaching aid is unusable, letting the producer know why will help to provide better materials in the future. Care should be taken to express only sound objections.

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CORRECTION

Money into Motion is a film available on loan free from
the Michigan Bankers Association, Lansing 16, Michigan,
and not a bulletin as indicated in the Illinois Teacher,
Volume VI, No. 3, page 141. Teachers are responsible
for returning the film, insured, at their own expense.

RECEIVED
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UNIVERSITY OF ILLINOIS

ILLINOIS TEACHER OF HOME ECONOMICS

HOUSING: AN IMPORTANT AREA IN TODAY'S HOME ECONOMICS PROGRAM

Encouraging Students to Think as We Teach Housing	289
Devices and Reading Lists for Teaching Housing	297
To Buy or Not to Buy a Used House	318
So You Want to be an Interior Designer	322
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Would you use this approach: Write these statements on the board and explain that learning these "generalizations" is the goal of the housing "unit" and assign readings from the department library to support each one. Have each student choose a topic to report on or prepare a paper. Give some of the quicker ones extra assignments like preparing a bulletin board or clipping magazines for articles pertaining to housing

Of course you have responded with a thundering NO! These understandings must be reached after the students have had numerous experiences which build up to them. What kind of experiences? How do we provide them? How can we involve students in thinking about housing?

What makes a student think?

What makes anyone think? He must have a problem to solve. What kinds of problems in housing are likely to be encountered by our students? If their only real problem is how to get a grade at the end of the housing unit, their understanding may be scant.

But our students do have real problems in housing. They want to live in a better house than their family can afford, or a house instead of an apartment. They want a room of their own, or a recreation room in which to entertain their friends. They can see that little brothers need more play space in the house and room to kick their football in the yard. They see parents making decisions about repairs and improvements. Some may be married or about-to-be and have decisions to make with spouses about where to live. Others have older sisters or friends with these problems and they feel somewhat involved.

How can we use these problem situations which are real to the students to stimulate them to think about housing? If a student who wants to move to a better house undertakes a study of the cost of housing to see whether her family might afford the move isn't she more likely to think than the one who studies this "dry subject" because the teacher assigned it one day? Won't the topic "How to Choose a Rental Apartment for Newlyweds in Our Town" for the girl who is planning to be married in June be more exciting than "Criteria to Consider in Choosing Rental Housing" for one who sees marriage as years away after she finishes college?

Students do have different problems and different needs; and sometimes common needs must be met in different ways because of differing abilities, backgrounds, and experiences. It is possible that separate aspects of a common problem could be studied by individuals or groups within a class and their findings shared in various ways: discussion, dramatizations, displays and exhibits, reports, contests, radio or TV programs, and the like. Ingenious students may create unique ways to present their aspect of the study. Variety can add spice to a classroom as well as to life!

Discovering the students' individual problems and interests is not always easy, of course. One must know her students and use varied techniques for finding out their special needs. There is no substitute for sincere concern and genuine interest in one's students. Activities of the Future Homemakers of America offer opportunities for becoming closer to students; conferences, home visits and home projects may also be helpful.

Previous issues of the Illinois Teacher¹ have provided substantial amounts of housing "subject matter" and listed many excellent sources of further information. How can we get these concepts, principles, or generalizations across to our students? What activities or learning experiences might result when students seriously pursue problems that are real to them?

One girl may say that her family is going to sell their present house. We might then question: Will they sell it themselves or seek the help of a realtor? What do realtors charge for their services, and what services do they provide? Could the girl be present when prospective buyers look at the house and see what questions they ask, what points the realtor or her parents emphasize in trying to make the sale? Will they have an appraiser place a value on the house before they determine their asking price? If so is he a representative of a government agency, a private firm, or a realty company? Could the girl be present when he makes his appraisal and find out how it is done? How could she share what she learns with the rest of the class?

Another girl's family is going to build a house, or her aunt is building one, or someone is building one next door, or her father is a contractor. In either case, she is likely to have an interest in, and a way of studying first-hand, the construction process. She might join others with similar interest and form a committee to study building materials, component parts, insulation, window types, plumbing costs, electrical requirements, etc., etc. She might secure for the class an invitation to the construction site and prepare them for it with a briefing session on terms, what to look for, what questions to ask. If a student can explain her knowledge to others, then we can see that she really knows. This is the highest level of mastery, and far too often the only person in a class who ever gets any practice in this explanation level is the teacher!

In a conference with Susan one day we discover that storage is a problem in her home. Thus another project gets going in the housing class. Susan, and perhaps others, study the storage needs of their own family, the Small Homes Council bulletin and others on storage facilities; they note storage arrangements in houses they visit; they talk about storage problems with people they know; and they make recommendations to improve their own situation. Again the class will want to know what they have done especially if their recommendations are carried out and evaluated.

As the students study housing, you, the teacher, will also be studying housing. Rather than relying only on your college housing course, you will read materials that are new to you, talk with local people who finance housing or build it, visit dealers in building materials and the Open House events of the local Builders' Association, observe housing conditions in various sections of your community. Learning is exciting, and as you become excited in your learning you will communicate this enthusiasm to your students!

Teachers frequently allow only four to six weeks for the study of housing and home furnishings in a year's home economics course, although in some schools a semester course for those with special interests is a part of the program.

How could we in six weeks teach the six generalizations on page 289? Perhaps we would decide that twelve weeks is the absolute minimum. If clothing merits a six weeks' "unit," housing, which takes much more of the family income and affects personal and family relationships in so many ways, must surely merit twelve. But regardless of the number of weeks, we would recognize that any generalization worth teaching is worth teaching well-- at least to that level of understanding which permits some application. And we can if we don't try to teach too many.

Let's take the first one: Housing takes a considerable portion of a family's income. A pre-test may reveal that the students already recognize this fact, may be aware of the average percentage of income that is spent in this way, and may know exactly how much of their own family budget is allotted for housing. If not, how shall we teach it? If so, we should proceed at once to another generalization, for example, number three: Increased knowledge about housing can help individuals and families to spend their housing dollars in a manner to increase their satisfactions. Here we must pause and reflect upon the kinds of specific facts which will build up to this generalization and how these facts can be presented meaningfully. Memorizing or paraphrasing our definitions or concepts will not suffice.

A look through the aforementioned issues of the Illinois Teacher will offer some help on facts needed. Re-reading "Housing for the Sixties," by Flora Y. Hatcher in the February 1962 issue of the Journal of Home Economics will also provide food for thought. Reflecting upon personal experiences in renting and buying housing may open up new ideas for some. What did you need to know to make reasonable decisions in this regard? Where and how did you find out? How will your students find out these things when they face the same problems? Experience now with such sources may help them to know how to find and use these sources later.

Number two, "housing has a significant effect upon the personal and family relationships of occupants," is a different kind of generalization but an important one, nevertheless. How can we build up to this one? Perhaps a discussion of problems that the students have encountered in their own experiences with housing, such as sharing a room or not having storage for one's possessions, might help. They might write papers on these problems and propose some solutions. Reading stories and novels in which housing was an important consideration might add to their understandings. Questions such as these might be answered in their report:

In what kind of housing situation did the main characters in this book (or story) live?

How did their housing affect relationships among family members and between them and others outside the family?

If there were problems that seemed to be caused or aggravated by the housing situation, what appears to be the reasons for the problem? (For example, was the house too small, or poorly arranged or

was it the neighborhood in which it was located, or did a difference in values among family members cause the strife?)
Can you think of any possible solutions to these problems?

English teachers might be happy to cooperate in assigning theme topics or suggesting books for the above reports. One English teacher we know suggested the following possible examples. Almost any novel would have some attention given to housing situations, however.

West Side Story, a novelization by Irving Schulman of
the Broadway musical of the same title

The Diary of Anne Frank, by Anne Frank

Seventeen and Alice Adams, by Booth Tarkington

Little Britches, by Ralph Moody

Mrs. Wiggs of the Cabbage Patch, by Alice Caldwell
(Hegan) Rice

Family Grandstand, by Carol Brink

Generalizations numbered four, five and six are for the teacher as much as for the students. How can you offer a beginning in increasing students' knowledge of housing that will encourage them to want to, and know how to, continue their learning without your direction?

Could we say that one principle applicable here is that if students enjoy learning and find it useful, they will be more likely to continue? If they are asked to memorize the definitions of a list of housing terms at the beginning of the unit "because you will need to understand these words in our study of the next few weeks," they may find the experience very dull and see no usefulness in it. But they can learn meanings for the same words in the context of a problem that is real to them and see great usefulness. Likely they will enjoy the learning, too.

Another principle we might state in this regard is: If students have experience in obtaining knowledge from the sources they will find available after the school years, they will be more likely to use these sources in solving problems they meet as adults. Such sources might include adult classes, realtors, bankers or other lenders, Federal Housing Administration officials and publications, popular magazines, government bulletins, visits to the local Parade of Homes sponsored by the Association of Home Builders or to the show rooms of builders' supply companies, etc. Assignments such as the following might stimulate students to use such sources if properly introduced:

Suppose you have a married sister in another town who is planning to buy a house. Write her a letter giving all the advice you can about how to make a "good buy" and list the questions she should ask the seller and the observations she should make as she looks at houses.

A couple of friends who graduated last year are getting married and would like to find housing to rent here in our town. Suppose they came to our class for help in making a selection. Could you be prepared to offer some? Should they rent or buy immediately? If Mary's parents are willing for them to live with them, should they? If they rent, do they need a house or an apartment? How large? Where? What will it cost? Should it be furnished or unfurnished? Is a mobile home a possibility?

How many people these days pay cash when they buy a house? Do you know how much is added to the cost of a \$15,000 house when bought with a mortgage? Does it make any difference whether the mortgage is for ten, twenty, or thirty years? How long can a mortgage be? Is it better to secure one for as long as possible or pay it off as rapidly as possible? What would determine a family's answer to this question? (The math teacher might agree to cooperate on this one.)

Semantics

Burton² begins his chapter on "Words: The Symbols of Thought" with a quotation which says in part: "There are trivial ways of studying language which have no connection with life, and these we need to clear out of our schools." The memorizing of the aforementioned list of housing terms would be an example of such "trivial ways. . . which have no connection with life."

But words are important, and the failure to understand the meaning of a single word may sometimes cause one to miss a whole idea or misinterpret an important concept. Words have meaning only in context, of course, since meaning means relationship. The meaning of the word rent, for example, shows the relationship between an owner, a user, and a piece of property in a specific way.

One way some teachers attempt to instruct about language usage is by propaganda analysis. A housing teacher might use a variation of this by analyzing advertisements. Some extreme examples such as those which try to sell "spacious lots for retirement homes in the golden West" are definitely propagandizing. But more reasonable advertisements for local property may also be analyzed. Questions like these may point up the importance of word meanings:

What is meant by a "lovely home in a perfect location"?
 What is a "modern kitchen" or a "finished basement"?
 What is a "low down payment" or a "special buy for veterans"?
 What can we expect of a home that is "in an exclusive neighborhood"?

(On page 311 Mrs. Geuther shows an example of advertisement analysis she has used in her classes.)

We can also give students practice in language usage by asking them to read a passage, an article, or a news story critically, questioning the statements made and their implications and also thinking about what has been omitted. Or we can insist, in our class discussions, upon definitions of

the words used. We can emphasize that without such definitions words may be used "to confuse thought or to conceal the absence of thought," as Burton put it.³

How can we define? Take the phrase "crawl space" that we use in housing. We might begin by saying where it is. Even a very slow learner can understand that a crawl space is under a house. We could, of course show a crawl space if we are visiting a house that has one. We could differentiate it from a basement or a house built on a slab, or we might discuss its purpose in house construction. Other terms might be defined by making comparisons with more familiar ones, or by using synonyms. Sometimes examples are useful or observations of the results of a given phenomenon. The important thing is to present the new idea in a way that the learner can understand in terms of his own past experience.

A careful reading of Burton or other references on semantics will suggest to the interested teacher other ways of teaching word meanings, possible errors in definition or quantification (Who knows what many means?), the dangers in using emotive or figurative language, the advantages and disadvantages of abstraction.

Values

We are often reminded nowadays that values are important in teaching. Few will suggest that we try to indoctrinate our students with our own values, but most educators do emphasize that as we try to help students learn to think reflectively we must recognize that they think with values as well as with facts. How do values enter into a study of housing?

A teacher who injects values into housing by asking students to "rank in order of preference the values you expect from a home" shows little understanding of her role in this regard. Since all values, such as comfort, convenience, beauty, safety, location, economy, etc., exist in degrees rather than in absolutes, then such a ranking would be utterly impossible in the abstract. In a given situation, however one might decide to rank location above beauty if two specific houses at two specific prices were being considered by a specific family.

A consideration of the values a family thinks of in choosing housing might, nevertheless, be a profitable undertaking for a class. Mrs. Geuther approached the subject by having her students write little skits, or minute dramas illustrating how a given value is related to some aspect of housing. Some of these skits prepared by her students are shown on pages 297-298.

Another way to help students see that we think with values as well as with facts would be to choose a problem, such as whether it is better to rent or buy a house, and list the items that come to their minds as they think of the problem. Then, considering each item separately, ask: Is this a fact? Some will probably be recognized as irrelevancies, and some will emerge as items based on personal desires, beliefs, etc. These can be pointed out as values and evaluated as such. Both facts and values can be looked at in terms of the decision needed regarding the problem. The fact of a given house costing \$20,000 may outweigh the value of its type

of beauty; or the value of wanting to live in a given school district may outweigh the fact that a house being considered is twenty years old and needs a coat of paint. Valuable experience in thinking with facts and values can be acquired by students in this manner if they see importance in the problem about which they are asked to think.

This is crucial! As we have said in previous issues, the problem must be real to the learner. If a student is concerned about finding the solution to a problem he is really interested in, no one will have to coax him to think. And no one need worry about whether he will be learning. Furthermore, he will remember what he learns because he has mastered it to the level of application and he sees value or usefulness in what he has learned. Perhaps most important of all, he will want to continue learning--in school and out.

¹Illinois Teacher, Volume IV, No. 6, and Volume V, No. 8. These issues are still available at 50¢ each.

²William H. Burton, Roland B. Kimball, and Richard L. Wing, Education for Effective Thinking (New York: Appleton-Century-Crofts, Inc.), 1960, p. 173

³Ibid., p. 175

DEVICES AND READING LISTS FOR TEACHING HOUSING

Hilda Geuther

Introductory notes by the editor

Minute Dramas Illustrating Values

A consideration of the role of values in housing is important in any study of that topic. Minute dramas written by students might be employed as a device for stimulating thinking about values. The following minute dramas are samples of those written by high school students to illustrate the kinds of values which play important parts in choosing housing.

Value illustrated: Economy

Scene: A young couple looking for an apartment

Betty: Jim, do you like this one?

Jim: Yes, it's nice. Three rooms isn't too small for us.

Betty: After we start our family, we could buy a house. It would cost more than we could afford to get a house now.

Jim: I know that, but I want you to have the best.

Betty: This is the best. It's near Mom's if I need anything, and we could afford it and live comfortably in it.

Jim: Then it's settled. Right after the wedding, this will be our new home.

Value illustrated: Location

Scene: A young couple house-hunting

Fran: Oh, George, don't you just adore this house? It has everything I have always wanted! A big beautiful kitchen, a huge living room, and enough bedrooms so that each one of our children can have a room of his own.

George: Sure! It's perfect but just stop and think! How close is it to the nearest store?

Fran: About three miles, so what?

George: So what! Some day you'll be out of the bare necessities, and if I know you, you won't walk three miles. Another thing, how far is school for the kids? Well, I'll tell you--about seven miles from here. I suppose you are going to get up at the crack of dawn to drive the kids to school. And what about church; you do plan on going, don't you? According to this map it is about ten miles.

Fran: Oh, O.K., you win. Let's get going and find a house closer to everything.

Value illustrated: Privacy

Scene: Living room of newly-purchased house

Karen: Mother, Jimmy has literally torn my room apart. Either you make him stay out of my room or my door will stay locked all the time.

Mother: Don't get so excited, Karen, he's just a little boy and since he has to share his room with the baby he can't play in there all the time. We'll get a bigger house someday.

Values illustrated: Location and space

Scene: Family discussing new house they are looking at

Teen-age daughter: Oh, mom and dad, I just love this house! It's so beautiful and it would mean that I would have my own room.

Younger daughter: It surely would be nice to have my own room so I can have some friends over once in awhile.

Son: There is a lot of room to play baseball and football in that huge back yard.

Mother: It would be about ten miles closer to your father's job.

Father: There wouldn't be any more train whistles or constant sound of cars. The real estate man will be here shortly and I'll have to talk the price over with him.

Value illustrated: Privacy

Scene: A boy's room

Wally: Tom, what on earth are you looking for? You're making more noise than a herd of buffalo.

Tom: I can't find my football shoes, and I thought I put them in here.

Wally: What would they be doing in my room? Hurry up and get lost, huh? I'm trying to study.

Value illustrated: Privacy

Scene: A young couple looking for an apartment

Susan: This seems like a nice section of town.

Dave: Yes, and there are lots of people around. You won't be lonesome when I'm working nights.

Susan: Yes, lots of people, maybe too many. Look at all those people on the patio in the back yard and all the children playing all around the building inside and out. I think I'd have too much company and not enough privacy.

Dave: Not only that--these walls are paper-thin.

Bibliography for Outside Reading

A bibliography presented to housing classes in the upper high school grades encourages related reading on the topics being studied. The following books are samples of the wide variety of reading material which is now available in the field.

Following the bibliography is a suggested form for reporting related readings to the teacher and to the class.

Related reading on housing problems

When an archaeologist wants to reconstruct the life of a vanished civilization, he examines the rubble which marks the floor of ruined dwellings. Present housing, real estate pages in today's paper and books are equally revealing; they expose our economic state, our social problems, our hopes and fears. Carl Koch, the architect, has said, "If we can go to the moon physically and financially we ought to be able to make our back yards livable." Housing is the Product of our civilization . . . how well have we done? Read from this list for an overview and add others that come to your attention. This is but a starter.

- Arnold and White. Homes, America's Building Business. Holiday
- Black, Hillel. Buy Now, Pay Later. Morrow
- Carter, Katherine. True Book of Houses. Grosset
- Case, Bernard. Story of Houses. 1957, Sterling
- Casson, Hugh. Homes by the Million. 1946, Paper Penguin
- Donahue, Wilma T. Housing the Aging. 1954, University of Michigan
- Drury, John. Historic Midwest Houses. Kimsey
- Engels, Friedrich. Housing Question. 1935, International Publishers
- Grier, Eunice, and Grier, George. Discrimination in Housing. Anti-Defamation League of B'nai B'rith
- Haegen, Paul. How to Have a Better House. 1950, Drake
- Johnstone, B. Kenneth. Building or Buying a House. 1945, McGraw
- Katona, George. Powerful Consumer. McGraw
- Keats, John C. Crack in the Picture Window. 1957, Houghton
- Lauprey, L. All the Ways of Building. McMillan
- Lynch, Kevin. The Image of the City. Harvard University Press
- Mogey, John M. Family and Neighborhood. 1956, Oxford University Press
- Mumford, Lewis. From the Ground Up. 1956, Harcourt paperback
- Packard, Vance. Hidden Persuaders. McKay
- Packard, Vance. Status Seekers. McKay
- Poyntz, Tyler. City and Suburban Housing. Wilson

- Riis, Jacob. How the Other Half Lives. 1959, Peter Smith
- Shultz, Hazel. Housing and the Home. Appleton
- Steiner, Oscar H. Our Housing Jungle, and Your Pocket Book. 1959, Universal Publishers
- Winnick, Louis. American Housing and Its Use. 1957, Wiley

Report form for related reading

The following form is suggested for reporting on books read in a class in housing:

- * Paragraph on author, his education and experience
- * In what way is the background of the author reflected in the content of the book?
- * What was the author's purpose in writing the book?
- * Select the portion of the book that was most interesting to you and include quotes of key sentences in your report
- * Give a brief resume of the book
- * Classify book (fiction, non-fiction, collection of essays, stories, or the like)
- * Merits of book--give specific illustrations from the book and refer to the pages where each may be found
- * Was the book based on research? Tell about the nature and extent of the research

On a separate page prepare five or more questions that one may be able to answer after reading your report

- * Answer the questions

Reading Chart

The following chart can be given to housing students as a guide to source material in the library. Many of the nine topics in housing indexed here are also discussed in the two issues of the Illinois Teacher previously mentioned.

It is extremely important in heterogeneous classes to provide references (for each area studied) in many levels of difficulty. A rough measure of the relative reading level of various books can be ascertained by comparing the number of syllables per word, the number of words per sentence and the number of sentences per paragraph.

Chart indicating page references for five major topics in home furnishings

Book, author and edition	Color and design	Walls, floors and ceiling	Furniture styles and selection	Furniture arrangement	Accessories
Agan. <u>The House-- Its Plan and Use.</u> 1956					629-692
Craig and Rush. <u>Homes with Character.</u> 1962	95-126	127-158	159-185	186-198	199-230
Faulkner & Faulkner. <u>Inside Today's Home.</u> 1956		275-378	379-410	410-425	208-272 459-509
Hatcher and Andrews. <u>Homemaking for Teen-Agers.</u> 1959				256-326	
Justin and Rust. <u>Today's Home Living.</u> 1947		198-208	194-198		
Laitem and Miller. <u>Experiences in Homemaking.</u> 1954				513-539	
Lewis, Burns, & Segner. <u>Housing and Home Management.</u> 1953	92-95	96-99	77-91	105-110	100-105 108
McDermott & Nicholas. <u>Homemaking for Teen-agers.</u> 1955				256-326	
Morton. <u>The Home and Its Furnishings.</u> 1953	3-98	197-260	101-138	139-196	
Sleeper and Sleeper. <u>The House for You.</u> 1948		229-235			
Starr. <u>Management for Better Living.</u> 1956	83-171			122-130	
Trilling & Nicholas. <u>Design Your Home for Living.</u> 1953	3-93	149-204	205-231	94-118	119-148 232-311
Waugh. <u>Interior Design.</u> 1955	1-15 43-67	16-18		20-32	

Chart indicating page references for nine major topics in housing

Author, Book, Edition	Family needs	Buy, build, or rent	Selection of site
Agan <u>The House, Its Plan and Use</u> 1956	3-123	227-233	144-160
Beyer <u>Housing, A Factual Analysis</u> 1959	14-20 170-173	151-168	202-223
Borgeson and Borgeson <u>Mobile Homes</u> 1959	10-19		29-35
Callendar <u>Before You Buy a House</u> 1953		5-14	18-29
Carter and Hinchcliff <u>Family Housing</u> 1949		239-251	
Cherner <u>Fabricating Houses from Component Parts</u> 1957			
Craig and Rush <u>Homes with Character</u> 1962	3-24	70-73	33-37
Dolzell <u>How to Plan a House</u> 1958			55-101
Faulkner and Faulkner <u>Inside Today's Home</u> 1954	3-59		
Ford and Creighton <u>Quality Budget Houses</u> 1954	4-9	146-161	10-29
Kennedy <u>The House and the Art of Its Design</u> 1956	35-104		437-482
Klaber <u>Housing Design</u> 1954	11-16		128-161
Lewis, Segner, and Burns <u>Housing and Home Management</u> 1961	9-11	11-17	37-39
Rogers <u>The Modern House, USA</u> 1962	3-16		105-106
Sleeper and Sleeper <u>The House for You</u> 1948		32-67	102-124
Springer <u>The Home You've Always Wanted</u> 1962			
Watkins. <u>Building or Buying the High Quality House at Lowest Cost</u> 1962	10-20	140-171	48-55

Chart for indicating page references for nine major topics in housing

Type of house	Planning and design	Work and storage areas	Equipment and appliances	Plumbing, heating, electrical	Financing	Building methods
161-180	161-180	314-315	534-627	436-533	693-696	
104	169-200				120-150	82-119
66-115					42-43	
30-36	37-52		47-48 60-61			
170-191	44-108				229-238	192-228
24-25	17-24			178-205	23-24	26-132
38-49	50-59	77-93	233-246	60-69	27-32	
1-54 102-141	300-452 526-579			453-509	510-525	142-300
557-575	513-550	60-80		426-457		175-207
90-145	30-89 91-120 217					180-204
377-436	105-291	278-292	203-292	240-259		483-502
16-20	34-36		39-56			
37-62	131-178 213-257	179-212		57-62	63-76	
	147-198			107-116	41-73	
135-145	236-239 147-205	206-222		256-283	90-101	240-255
77-115	116-157				34-48 192-200	
41-44	20-40	45-47		62-97 125-139	118-120 184-226	172-183

Contract Assignments

Development of the ability to think is encouraged by the individualization of student assignments. A contract type of assignment allows for individuality and yet keys every student's work to the topic being studied. Following are some typical contract assignments used in the housing classes at Carl Sandburg High School. This type of assignment allows for individual differences in ability, interest, background, etc., and gives students flexibility in time planning.

Tentative plans for housing course

1. Weekly reading reports keyed to questions on housing
(See Illinois Teacher, Volume IV, No. 6, page 278)
2. Term paper on life and works of a contemporary architect
(See page 325 of this issue)
3. Book report on your choice from a selected reading list of books related to housing (See pages 299-300 of this issue)
4. Reading, discussion and testing on topics listed on course content outline
5. Class room activities and home work assignments will be varied

Topic: Family housing needs

1. Analyze the extent to which this community, the school, your neighborhood and the house in which you live meet the needs of your family
2. Read one of the references listed on your student reading list and be prepared to share its content with the class
3. Write some skits in which you dramatize some value important to the character in the skit and related to housing. Some suggestions are:

health	beauty
privacy	safety
economy	hobbies
location	

(in relation to friends, schools, shopping, work, etc.)

4. Optional suggestions for those who wish to do more:
 - * Prepare a crossword puzzle using vocabulary words you have learned in your study of housing
 - * Read an extra reference and write a short paper analyzing, interpreting or applying what you learn from it
 - * Arrange a bulletin board on housing
 - * Do you have an idea which would add to our knowledge?

Topic: Electricity in the home

(Prepared by Vera Dean, University of Illinois student teacher with Mrs. Geuther)

1. Survey your home and chart electrical outlets (both lights and convenience outlets) on a floor plan. Determine which outlets belong to each circuit leading from the fuse box. You might

use a different colored pencil to indicate outlets on each separate circuit. Determine the electrical capacity of your home and analyze the convenience of your wiring in terms of the needs of your family. How could your own electrical system be improved?

2. Complete the study outline on basic concepts of electricity
3. Make a market survey of the kinds of fuses, circuit breakers, switches, and convenience outlets available. Prepare a chart showing uses, costs, and special features of the kinds of these articles which are available. Visit at least three stores to get information in this survey; list the stores you visited at the bottom of the chart
4. Optional suggestions for those who wish extra experience
 - * Investigate the method by which electricity is generated at the local power plant and delivered to your home. Also find out what are other ways of producing electricity. Report to the class on your findings
 - * Compare two model homes (or blueprints of model homes) as to electric service entrance capacity; number of special purpose circuits and outlets for major appliances; adequacy of the number, type, and placement of outlets; location and types of switches; and extra features. Which home has better electrical facilities? Why?
 - * Design a kitchen and/or laundry to scale. Indicate work centers and all major equipment. Indicate the location and number of outlets, switches, and other electrical equipment. Which items of equipment require individual circuits?
 - * What individual project would you like to do? Give a demonstration to the class, or explore some phase of electricity? Ask your teacher for permission; she may be able to refer you to sources of information on your project

Topic: Architects

This outline is provided as a guide to assist in reporting some common factors in the life and works of architects for comparison in class discussion. (See thumb nail sketches beginning on page 325)

1. Write an introductory paragraph discussing the references you used for background material. Identify each author and tell something of his qualifications for writing on the subject
2. Write a paragraph on the architect's unique experiences that influenced his style
3. What was the outstanding contribution made by this man to world housing?
4. Which architectural work by this man did you find most interesting? Describe the work
5. Where is the nearest example of this architect's work located? Describe the house or building with emphasis on the factors that make it outstanding
6. Submit a minimum of five questions related to the architect's philosophy or style that you believe members of the class will be able to answer after hearing your report

Learning Experience in a Market Survey

A survey of the market in any given area may, if structured so that each group of students comes back to class with facts that can be compared, provide stimulating discussion of the local housing market. This form is suggested as one possible means of getting comparable information. This may be used to compare two or more new houses, two or more old houses, or a new and a used house. The evaluation allows each student to interpret the findings according to the principles learned and the values he brings with him.

Suggested form for market survey

Group members:

_____	Type house _____
_____	Location _____
_____	Sq. ft. finished floor space _____
_____	Price _____ Cost per sq. ft. _____

Advantages

1. Location _____

2. Style _____

3. Exterior finish _____

4. Interior finish _____

5. Storage _____

6. Room arrangement and traffic pattern _____

Disadvantages

1. Location _____

2. Style _____

3. Exterior finish _____

4. Interior finish _____

5. Storage _____

6. Room arrangement and traffic pattern _____

7. Plumbing_____	7. Plumbing_____
_____	_____
8. Heating system_____	8. Heating system_____
_____	_____
9. Electrical wiring_____	9. Electrical wiring_____
_____	_____
10. Landscaping_____	10. Landscaping_____
_____	_____
11. Other_____	11. Other_____
_____	_____

Exercise in Evaluation of a House Plan

- Each student or group of students writes a description of a family shopping for housing. In the description cite immediate and foreseeable needs in terms of the family cycle.
- Select a stock house plan that appears to meet most of the needs identified in the situation under # 1. Select a plan for which a price is given in the advertisement. Clip and attach to score card.
- Identify desirable features and shortcomings in the selected plan.
Rate the rearranged space in column three in the following check list
 - Rearranging must be done within the same amount of floor space
 - Mark door openings ; window openings ; and the direction of door swing.
 - Sketch in kitchen work area
 - Indicate north and the direction of prevailing winds by arrows on the edge of the paper.
- Rate adequacy of plan from zero to maximum number of points shown on the check list.

	Maximum Points	Stock Plan	Revised Plan
LIVING ROOM			
Size (minimum 170 sq. ft.).	10		
Well proportioned, length to width.	10		
Windows well placed for:			
Ventilation.	10		
Light.	5		

	Maximum	Stock	Revised
LIVING ROOM (continued)			
Wall area adequate to:			
Accommodate large pieces of furniture.	10		
Heating outlets located where they:			
Will not interfere with furniture.	10		
Electrical outlets are:			
Suitably spaced.	10		
Adequate in number	10		
Traffic lanes are:			
Kept to a minimum.	10		
Privacy:			
From street traffic.	5		
From front door.	5		
DINING ROOM OR DINING AREA			
Short, direct access from kitchen	10		
Windows well placed for:			
Ventilation.	10		
Light.	5		
View into kitchen:			
Does not expose entire work area	5		
BEDROOM # 1			
Wall areas large enough to accommodate:			
Double bed or twin beds.	10		
Dresser.	5		
Chest of drawers	5		
Other pieces such as desk, etc.	5		
Doors located:			
To open against wall	5		
Windows placed for:			
Good natural light	10		
Cross ventilation.	5		
Heating outlets located where:			
They will not interfere with furniture	10		
Electrical outlets are:			
Suitably spaced.	10		
Adequately numbered.	10		
BEDROOM # 2			
Wall areas large enough to accommodate:			
Double bed or twin beds.	10		
Dresser.	5		
Chest of drawers	5		
Other pieces such as desk, etc.	5		
Doors located:			
To open against wall	5		
Windows placed for:			
Good natural light	10		
Cross ventilation.	5		
Heating outlets located where:			
They will not interfere with furniture	10		

	Maximum	Stock	Revised
BEDROOM # 2 (continued)			
Electrical outlets are:			
Suitably spaced.	10		
Adequately numbered.	10		
BEDROOM # 3			
Wall areas large enough to accommodate:			
Double bed or twin beds.	10		
Dresser.	5		
Chest of drawers	5		
Other pieces such as desk, etc.	5		
Doors located:			
To open against wall	5		
Windows placed for:			
Good natural light	10		
Cross ventilation.	5		
Heating outlets located where:			
They will not interfere with furniture	10		
Electrical outlets are:			
Suitably spaced.	10		
Adequately numbered.	10		
BATHROOM			
Opening off hall.	10		
Located conveniently near bedrooms.	10		
Insulated to reduce noise from running water.	10		
Windows for:			
Adequate light	5		
Not over tub	10		
Floor space adequate for dressing	10		
Walls and floors smooth and sanitary.	10		
Shut-off valves on all water supply pipes	5		
Accessories adequate:			
Towel racks.	5		
Tissue holder.	5		
Grab bar or rail in tub and/or shower.	10		
HALLS AND STAIRS			
Light switches at:			
Head and foot of stairs.	10		
Either end of hall	10		
Handrail on:			
Main stairway.	10		
Basement stairway.	10		
Outside stairs:			
Well lighted	10		
Protected from weather	5		
Equipped with handrail	10		
KITCHEN			
Work areas arranged in sequence from service entrance to dining room:			
Food receiving, storage and preparation.	10		

KITCHEN (continued)

Work areas arranged in sequence from service entrance to dining room:

Sink and dishwashing 10
Food cooking and serving 10

STORAGE

Storage areas placed conveniently near the point of first use

Basement storage 10
Attic storage. 10
Kitchen area:
Food surplus. 5
Seasonal equipment. 5
Waste 5
Dining. 5
Laundry 5
Cleaning. 5
Children's play equipment 5
Child care. 5
Home maintenance supplies 5

LIVING AREA STORAGE

Main entrance:

Street clothes 10
Guest wraps. 5

Service entrance:

Street clothes 10
Toys taken in every day. 10

Living room:

Books. 5
Card table and chairs. 5
Records. 5

SLEEPING AREA STORAGE

Bedroom # 1

In-season clothing 10
Out-of-season clothing 10
Hobby or special interest equipment. 5

Bedroom # 2

In-season clothing 10
Out-of-season clothing 10
Hobby or special interest equipment. 5

Bedroom # 3

In-season clothing 10
Out-of-season clothing 10
Hobby or special interest equipment. 5

General

Blankets 10
Linens 10
Sick room equipment. 10

Maximum	Stock	Revised
10		
10		
10		
10		
5		
5		
5		
5		
5		
5		
5		
5		
5		
10		
5		
10		
10		
5		
10		
10		
5		
10		
10		
10		

GENERAL STORAGE FOR SEASONAL ARTICLES

	Maximum	Stock	Revised
Trunks.	5		
Suitcases	10		
Christmas tree decorations.	10		
Sewing machine.	5		
Baby carriage, stroller, play pen	5		
Bicycle	5		
Outdoor furniture	10		
Storm windows and doors	10		
Screens	10		

Advertisement Analysis

A local company advertised, with big headlines, that it is cheaper to own a house than to rent. The statement was allegedly made on the basis of a survey of owners, and the advertisement included the income of a typical couple, their previous monthly rental, monthly payment on house purchased, taxes and insurance, income tax deduction for taxes and interest, etc. The advertiser's figures "showed" that this family saved \$1600 a year by buying a house in their development.

In analyzing the advertisement, we asked questions:

- (1) Can we really say we have saved the money allotted to "average annual appreciation based on past ten-year experience"?
- (2) Is this appreciation taxable if the property is sold at a profit?
- (3) What does appreciation here mean?
- (4) Is the tax deduction for taxes and interest really savings?
- (5) How much equity did the couple acquire in the house the first year? On the average per year for the life of the mortgage?
- (6) What do we mean by equity?
- (7) Is this equity savings?
- (8) Are there other advantages to home ownership besides cash considerations?
- (9) Are there disadvantages?
- (10) Why did this advertisement present a different picture from the one we might draw?

An income tax analyst who was used as a resource person concluded that the only real saving may be the equity acquired; some savings (not to exceed \$125 per year) may be realized from tax deductions.

Films on Housing

Films are a useful device when teaching some aspects of housing. When a film or a filmstrip is used, lesson plans such as the one included here can be developed. A well-developed lesson plan, centering around a film, is helpful to both the teacher and the students.

The following lesson plan centers around the use of a fifteen minute color film, Homes for Growing America, available free from Association Films, 347 Madison Avenue, New York 17, New York. Borrowers pay return postage.

Note that some of the points to be gained from this lesson have been repeated four times: in the pre-test, in the discussion, in the film, and in the follow-up test. Such repetition may be especially helpful for slow learners and is much more interesting to any learner than doing the same thing in the same way four times.

Administration of pre-test

(This introduction is to guide students in what to look for in the film.)

We are about to see another commercial film furnished to us by one of the largest manufacturers of prefabricated homes in the United States-- a company that is active in this particular area of the country.

Prefabricated homes, mobile homes, and on-the-site construction are each a part of the housing picture. As you view the film watch for evidences of the producer's efforts to meet the basic needs of particular families as well as the technical details of construction that differ from conventional building practices.

Let's take a few minutes before we run the film to check this true-false pre-test which you know is not graded.

The statements below apply to prefabrication in house construction. Use "x" to indicate those you believe are false; "o" for those you believe are false; and "✓" for debatable items.

In prefabricated houses these construction processes are done at the factory:

- ☐ 1. floor units are built
- ☐ 2. wall panels are built
- ☐ 3. roof trusses are built
- ☐ 4. plumbing is assembled
- ☐ 5. windows and doors are installed

Prefabrication is said to:

- ☐ 6. lower the cost of building
- ☐ 7. reduce the time required for construction
- ☐ 8. provide housing at minimum cost per square foot
- ☐ 9. provide a variety of choices in style of house
- ☐ 10. be producing more houses than the market demands

The cost of prefabricated houses depends upon:

- ☐ 11. buyer's choice of basement, crawl space or slab foundation
- ☐ 12. buyer's choice of exterior finish
- ☐ 13. buyer's choice of interior finish
- ☐ 14. buyer's choice of plumbing fixtures
- ☐ 15. location of the house

Discussion

Before we see the film would you like to express how you feel about prefabricated housing?

What developments in our area are full-scale prefabs?

What are the advantages of prefabricated houses?

Do you think prefabricated houses are sold in large numbers? Why?

Viewing of film

Administration of follow-up test

Evaluate the following statements. Mark those that are true "x"; those that are false "o"; those that are debatable "✓".

- ☐ 1. Wall panels of mass produced houses are assembled at the factory.
- ☐ 2. Price to the buyer of mass produced housing is influenced by the individual's choice of interior and/or exterior finishes.
- ☐ 3. In the film, each house was built by varying the combinations of the basic component parts.
- ☐ 4. Mass produced houses are more expensive than custom built houses of the same size.
- ☐ 5. The interiors of the mass produced houses are all the same.
- ☐ 6. Prefabrication has resulted in a surplus of houses.
- ☐ 7. Houses built from mass produced component parts are erected in a shorter time than conventionally built houses.
- ☐ 8. One advantage of mass produced housing is the lower cost.
- ☐ 9. Prefabricated houses may be erected on a basement.
- ☐ 10. Trusses are used to support the roof in prefabricated units.

Discuss the place for pre-fabrication in the home building field _____

Evaluation

Evaluation is an essential phase of the learning process and can be accomplished in a variety of ways. Most educators feel that it should be a cooperative and continuous process involving both teacher and student, both of whom should understand and agree upon the objectives on which evaluation is based. Likewise both should agree upon the types of evidence which shall be used to indicate growth. Such evidence might include:

- * observations of behavior
- * check sheets
- * examination of products made
(such as draperies in a home furnishings unit)
- * lists of readings
- * written interpretation and analysis of readings
- * application of principles to personal problems
- * reports of field trips or interviews
- * participation in class discussion
- * written evaluation of class discussion
- * written tests

Examples of types of the latter follow.

Matching test items

On the space numbered at the left of the following statements, write the letter that indicates the correct term for each definition.

- | | | |
|---------------|-----------------|----------------------|
| a. liquidate | g. closing cost | n. rent |
| b. title | h. interest | o. sublease |
| c. collateral | i. depreciation | p. zoning ordinance |
| d. deed | j. assessment | q. valuation |
| e. principal | k. lease | r. site |
| f. amortized | l. lien | s. open end mortgage |
| mortgage | m. option | t. prefabricated |

- _____ 1. compensation received by the owner of property for its use by another
- _____ 2. an agreement which grants the right to buy, sell or rent a certain property within a certain time for a certain price
- _____ 3. the location for a house
- _____ 4. legal form proving ownership of a piece of property
- _____ 5. the original amount of a loan
- _____ 6. the sum a borrower pays for the use of money
- _____ 7. local statutes that regulate the type of use for both land and buildings in specific areas of the community

- ☐ 8. a contract for renting
- ☐ 9. one that is repaid in specified amounts, frequently on a monthly basis, during the term of the mortgage
- ☐ 10. to settle all outstanding accounts and wind up a business deal
- ☐ 11. establishing the value of property for tax purposes
- ☐ 12. costs incidental to completing financing arrangements, e.g., title insurance, recording fees, property survey, etc.
- ☐ 13. loss in value due to wear and tear, deterioration, obsolescence
- ☐ 14. written agreement executed and delivered according to law containing some transfer of property. Must be recorded
- ☐ 15. an agreement transferring the rights of a tenant to another party
- ☐ 16. an attempt to fix true value of property as distinguished from price
- ☐ 17. security to insure repayment of money borrowed
- ☐ 18. mortgage that permits the mortgagor to finance further necessities without rewriting the loan
- ☐ 19. walls, partitions, floors, ceiling and/or roof sections built at factory and assembled on the site
- ☐ 20. legal claim on the property of another for payment of a debt

True-false test items

The McDonald's income is \$3,000 and they plan to spend \$7,000 for their new home, which will be financed through the local bank with the Federal Housing Administration insuring the mortgage. Using the text as a basis, mark "x" each statement that Mrs. McDonald will find to be true, and mark "o" each statement that she will find to be false.

- ☐ 1. Local commercial loan companies usually charge the lowest interest rate for housing.
- ☐ 2. FHA or VA insured loans usually offer the lowest interest rate for housing.
- ☐ 3. Lending companies not under FHA insurance require a down payment of 20-30% of the appraised value of the house.
- ☐ 4. FHA accepts down payments of as little as 10% of the total cost of the house and lot.
- ☐ 5. The down payment on this house as financed through the FHA insured loan is \$70 minimum.
- ☐ 6. The monthly payments on most housing loans are applied only to the principal.
- ☐ 7. Most loan companies allow amortization periods of ten, fifteen, or twenty years.
- ☐ 8. The cost of materials for a \$7,000 home will be approximately 45% of the total cost.
- ☐ 9. The architect, contractor and surveyor's fees amount to almost 50% of the cost of the home.
- ☐ 10. Labor and construction costs absorb 30% of the cost of the house.
- ☐ 11. Cost of the site, with improvements needed, usually does not exceed 13% of the \$7,000 cost.
- ☐ 12. The approximate cost of the house may be figured by calculating the cubic feet in the house and multiplying that figure by the current local cost per cubic foot.
- ☐ 13. Stucco or brick veneer is the least expensive exterior wall finish.

- _____ 14. A square, one-story six room house is cheaper to build than a square one and one-half or two-story house with the same amount of floor space.
- _____ 15. Upkeep of the house and lawn usually averages 5% of the cost of the house per year.

Modified true-false test items

If the underlined word is used correctly in the statement, place an "x" on the space at the left of the number.

If the underlined word is not used correctly in the statement, place an "o" on the line at the left of the number.

Write a statement using the underlined word correctly for each statement you have marked "o", on the line directly under the incorrect statement.

- _____ 1. Amortization of a loan refers to the interest coming due.

- _____ 2. An appraisal of property is necessary before an FHA insured loan will be made available to you.

- _____ 3. Collateral may be borrowed money.

- _____ 4. A deed is a written agreement for the sale of property.

- _____ 5. Interest is money paid by the borrower for the use of another person's capital.

- _____ 6. An assessment is made by the governor's office.

- _____ 7. A mortgage is a legal paper signed when you make the down payment on a piece of property.

- _____ 8. Real estate contracts require larger down payments than mortgages.

- _____ 9. Principal is the sum of money borrowed.

- _____ 10. Foreclosure of a mortgage may be completed in ninety days.

Crossword puzzle

Fill in the space with "housing words" that answer the definitions given

ACROSS:

1. to produce housing units
3. money used to carry on business
5. agency that provides money for the construction of publicly owned rental units
6. interest on diminishing capital
7. chance of loss
8. amount due after down payment
9. to settle accounts and distribute assets
10. agency concerned with redevelopment of existing housing
13. agency dealing in home loans
14. area outside corporate limits of city
15. to provide for gradual elimination of debt
16. charge levied against real estate to finance government
16. chief city of state or region

DOWN:

2. written agreement conveying title to real estate
3. security to insure repayment of loan
4. an estimate of the value of property
12. having to do with cities
18. referring to moral excellence and strength
19. money paid for use of space
20. those who study production, distribution and consumption of wealth
21. written legal agreement in which the borrower pledges specific property as security for a loan

[illegible]

TO BUY OR NOT TO BUY A USED HOUSE FOR REMODELING

Hilda Geuther

Is a used house which can be remodeled a better buy than a new house?

How could one answer this question? What information would a family need regarding its own space requirements, desires in respect to location and neighborhood, financing arrangements, values concerning "old" versus "new", etc.?

Consider the family who paid \$15,000 for a house ten years ago. They now need an additional room and bath. They can buy a house providing the space needed for \$25,000 with a trade-in allowance for their present house. A firm specializing in remodeling has quoted a figure of \$7,500 to add the needed space to their present house which is in a neighborhood they like. Let's look at this from the financial angle--ten years ago they paid \$3,000 down and gave a twenty-year mortgage at five per cent interest. They will pay \$19,008 in payments or a total of \$22,008 for the house they now have. If they add the space and \$7,500 debt plus the \$1,595 interest over a five year period, their total investment in the house will be \$31,103.

The trade-in value of the present house is \$17,000 leaving \$9,634 to apply on the \$25,000 house after clearing the outstanding mortgage of \$7,466 on their present house.

The new mortgage on the \$25,000 house would be for \$15,366 and would be subject to the current rate of interest which is higher. One would need to figure interest at six per cent on the new loan over a twenty-year period. The house would cost \$26,405 which, added to the down payment, would bring the total investment at \$36,039 at the end of the twenty-year period.

What information may be valuable in arriving at a decision in this or comparable situations?

1. Current listings indicate that there are twice as many used houses on the market as new ones.
2. Older used houses may contain twice the space as new houses in the same price range.
3. Location of a house is one very important influence on its market value.
 - a. Used houses are frequently located in established neighborhoods.
 - b. Taxes tend to be more stable in established neighborhoods.
 - c. Assessments for streets, lighting, sewers and water mains will have been established.
4. Remodeling (or modernizing, rehabilitating, or renovating) may increase the livability of a house, or make it more salable. (Remodeling should be distinguished from basic repair such as re-roofing, re-wiring, or painting.)
5. Remodeling is often desirable when a house has a convenient location, near schools, shopping facilities, or community services.

6. Remodeling usually is a poor investment in a deteriorating neighborhood, when the house is structurally unsound or when the changes do not improve the functional qualities of the house.
7. The age of a house can give clues to areas of construction deserving more specific checking than most buyers are qualified to make.
 - * Houses built in the 1920's may be structurally sound but usually mechanically poor--characterized by inadequate heating systems, inadequate electrical wiring to carry increasing loads, and inadequate plumbing.
 - * Automatic heat, copper and brass pipe, and rock lath were introduced to the mass housing market during the 1930's.
 - * Design inadequacies appear in kitchens, bathrooms and storage facilities in older houses.
 - * The creation of the Federal Housing Authority in 1934 stimulated the improvement of quality in house construction.
8. Appraisers may be hired for more expert opinions on specific phases of construction and location value. Ask questions about:
 - * Heating systems
(Those that are more than twenty-five years old, particularly units that have been converted from coal to gas or oil, may need to be replaced.)
 - * Plumbing
(Check for corrosion.)
 - * Water heaters
(Those more than ten years old have a short performance expectancy.)
 - * Insulation
(It is not common in structures more than fifteen years old.)
 - * Roof
(The typical asphalt shingle roof, found on two out of three existing houses, can be expected to last ten years in hot climates and fifteen to twenty years in colder areas.)

Guide for house hunter

When shopping for a used house these guides may assist in comparison of houses on the market. Comparison shopping may help the consumer make an objective decision in the market.

1. Check the exterior for:
 - condition of exterior walls
 - slope of land in relation to natural drainage

landscaping
 condition of roof
 screens and/or story windows
 walks and drives.

2. Check the interiors for:
 - types of cracks in walls and ceilings
 - evenness of floors
 - swing and closure of doors
 - evidence of leakage from concealed pipes
 - smooth opening of windows
 - kitchen and bathroom floors suitably covered
 - attic ventilation
 - water marks from roof leaks
 - evidence of damage from condensation
 - evidence of termite damage
 - evidence of wood rot
3. Check the heating system for:
 - age of unit
 - corrosion
 - rust or leaks
4. Check the roof and gutters for:
 - broken, worn or damaged shingles
 - rusty or sagging sections of gutter
5. Check the plumbing system for:
 - type of pipe used for water supply and waste removal
 - operating condition of septic system
 - pressure at all outlets
6. Check the wiring for:
 - three wire lead-in from street to house
 - number of circuits
7. Check the water heater for:
 - evidence of rust or corrosion inside pilot light door
 - tank capacity

Financing a used house

Three major factors when considering a used house are financing, initial outlay, and upkeep. Generally speaking it is more difficult to secure financing on a used house.

- * Desired home improvements may be financed by paying cash, personal loans, or home improvement loans.
- * Loans may be secured from individual lenders, savings and loan associations, insurance companies, or a commercial bank.

* Loans are referred to as applying in three categories:

structural alterations and reconstruction
changes for improved function and modernization
changes to eliminate obsolescence

* Remodeling must cover facilities that would have been eligible for inclusion in the original loan.

One method for financing home improvements is the "open" mortgage, which allows one to borrow money to pay for improvements and add the cost of the remodeling to the amount owed on the original mortgage. The increased debt may be paid by increasing the amount paid each month. Or the number of months you pay the amount established for the original loan may be increased.

Under the long term government insured home improvement loans administered by the Federal Housing Administration one may:

build additional rooms
add a garage
replace obsolete plumbing
recondition the heating system
install air conditioning
replace roof
install new floors

1. F.H.A. insured home improvement loans may run five, ten, fifteen, or twenty years but not more than three-fourths of the remaining economic life of the property after improvements.
2. Lenders may not exceed six per cent interest plus one-half of one per cent for F.H.A. insurance. Discounts are prohibited.
3. Maximums and minimums for home improvement loans insured by the F.H.A. may be obtained by consulting the local office. New laws change these amounts from time to time.

SO YOU WANT TO BE AN INTERIOR DESIGNER!

Hilda Geuther

What would you do if you became an interior designer?

You would provide a service--helping people furnish their homes in a manner they and others would consider distinctive and in good taste. Moreover, a whole new field now has great demand for well-trained interior designers--the non-residential type building, such as hospitals, universities, public schools, office buildings, and many others.

You would hold consultations necessary to arrive at decisions about the total plan, or areas.

You would supply or help clients secure the merchandise needed to complete the design planned.

You would be in daily contact with the wholesale market, antique shops and art galleries to know what is available at any given time. This is a never-ending educational process.

You would take clients on shopping trips to pre-determined showrooms to make final decisions for purchases, or in many instances take merchandise to the client for his approval.

You would draw plans and make color sketches to help the client visualize the completed project. Many times colored perspective drawings would be used. Occasionally you would make a scale model for the client.

You would arrange for custom work to be done by cabinetmakers, upholsterers, craftsmen such as weavers, etc., if necessary.

Can you become an interior designer?

The best interior designers meet high standards set by the American Institute of Interior Designers, a professional association with about 14,000 members.

Some 25,000 persons trained in the interior design field work in related jobs such as working in or managing:

- a shop selling decorator supplies
- a furniture department or store
- a fine arts department or store
- a decorative fabric section or store.

Other than the American Institute of Interior Designers, which is a voluntary organization, there is no supervisory group to set up requirements for calling one's self an interior designer.

Would you be well-paid?

There is no general statement to be made. The interior design business is serious and highly competitive; location and background knowledge are important. Most interior designers with five to ten years' experience and who are well-trained can expect to earn over \$10,000 per year.

What qualifications do you need?

You need above all else to be a sensitive person. You need a general knowledge of architecture and technical details of:

- furniture design and construction
- fabrics
- carpeting
- antiques
- furniture finishes
- fine arts, accessories
- construction materials
- marketing of merchandise

You need good taste, common sense, and clever ideas, plus enough self-assurance and the ability to sell your own ideas.

Where do you learn these things?

Good schools of design teach courses in these areas. Some stores employ novice designers who work while they learn. This is a long, hard way, but experience is a good teacher.

How are interior designers paid for their services?

You may be hired for your creative talent, but you make a profit on items bought wholesale and sold to your client. Or you may be hired as a consultant on an hourly fee basis, at a rate as high as \$35 to \$100 an hour. For custom work you are usually paid cost plus a commission of 20%.

Where do you get furnishings?

You would get merchandise from wholesalers who sell to the trade only. Wholesalers must decide who are legitimate buyers. Some require listing in a business credit agency such as Dun and Bradstreet or Lyons Mercantile, a few will settle for a letterhead, but most require showing your sales tax registration number. You may register with one or two trade associations and receive registration cards that will admit you to most show rooms.

How do you pay the manufacturer?

This depends upon your credit rating. If you are not established you pay cash in advance. If you have a lesser credit rating, you may be required to pay on delivery; but if you have a very good credit rating you will be billed when the goods are delivered and pay within a given length of time as stated on the bill.

How much capital do you need to start practicing interior design?

You will need money for living expenses while you are getting started, and also a working capital to cover goods delivered to clients who have not paid you. Some established interior designers who started with little capital recommend at least \$5,000 as a minimum. It would depend on how far you wish to extend your personal credit and how willing your clients are to pay in advance. You would need money for samples, basic office equipment, and for token deposits on orders placed with manufacturers.

What is a good location?

Cities provide more show rooms, curio shops and craftsmen--also more competition. Density of population with adequate income to pay for something out of the ordinary is a must. If you locate away from a large city you must plan for frequent trips to scout the markets.

Word of mouth is the best advertising and the kind most beneficial to interior designers wherever you locate.

THUMBNAIL BIOGRAPHIES OF ARCHITECTS

Hilda Geuther

Architecture might be called the science or art of building, including design, construction and decorative treatment. Some people look at architecture as history, some see it as art. Either approach will develop an appreciation of the impact architects have had in shaping the look of American housing.

Historically, architects first served the princes of the Church, then heads of state and, more recently, wealthy business men. The architect who is serious about helping to house the U.S. today may choose to do so by designing houses for the large scale builders, or he may design and build houses for individual clients that will create prototypes for many more.

The job of producing human shelter has experienced a frightening acceleration. Douglass Haskill, writing in "Master Builder," student publication of the School of Design, North Carolina State College, redefines architecture as "the art of producing or qualifying human surroundings to create a human setting--fit, worthy and beautiful."

One can enliven the study of architectural styles with a survey of contemporary architects and the philosophy expressed in their designs. Discover how these men are absorbing products of the industrial revolution to produce houses for the common man. Learning where public buildings and dwellings by the great masters are located can add to the interest of travel.

These thumbnail biographies from Masters of Modern Architecture by John Peters (New York: George Braziller, Inc., 1958) will serve as a starting point for guiding your reading about architects. Reprinted with the permission of the publisher, George Braziller, Inc.

Biographies of modern architects

Alvar Aalto

Born in 1898 of Finnish-Swedish-Esthonian stock, Aalto was in the forefront of the movement to introduce the new architectural doctrines of the CIAM into Finland following World War I. A graduate of Helsingfors Technical College, he received the opportunity to execute his first independent work, the Industrial Exhibition at Tampere, the year following his graduation. Married to an architect, he is equally famed as a furniture designer and introduced plywood for this purpose. Some of his outstanding works are the Civic Center, Sagnatsalo, Finland; Sunila Factory, Finland; Sanatorium at Paimio, Finland; and the library at Viipuri, Finland.

Max Abramovitz

A native of Chicago, Mr. Abramovitz attended the University of Illinois, Columbia University, and Ecole des Beaux Arts in Paris. He is a partner in the firm of Harrison and Abramovitz with offices in New York City. Some of the outstanding works by this firm are the Corning Glass

Center, Corning, New York; U.S. Steel Building, Pittsburg, Pennsylvania; Alcoa Office Building, Pittsburg, Pennsylvania; and the U.S. Embassy Building, Havana, Cuba.

Donald Barthelme

This native Texan received his education at Rice Institute and the University of Pennsylvania. A gifted architect, he is perhaps best known for his excellent schools. His present firm, Donald Barthelme and Associates, was organized in 1939. Mr. Barthelme has received many honors for his distinctive contribution to the advancement of our schools through better design. Some of his award-winning schools are St. Rose of Lima, Houston, Texas; West Columbia Elementary School, West Columbia, Texas; and Sweeny Elementary School, Sweeny, Texas.

Marcel Breuer

Born in 1902 in the town of Pecs in southern Hungary, Breuer's earliest ambition was to become a painter or sculptor. He joined the Bauhaus in Weimar founded by Walter Gropius. His creation of tubular steel furniture was one of the most important influences on modern furniture design. In 1937, with Walter Gropius, he came to the United States and Harvard University. A few of his more notable works include Breuer House (with Gropius), Lincoln, Massachusetts; Dolderthal Apartments (with Alfred Roth), Zurich, Switzerland; Robinson House, Williamstown, Massachusetts; and Breuer House, New Canaan, Connecticut. He lives in New Canaan, Connecticut, and has offices in New York City.

Gordon Bunshaft

Born in Buffalo, New York, and educated at Massachusetts Institute of Technology, Gordon Bunshaft has received world-wide recognition as partner in charge of design with the architectural firm of Skidmore, Owings and Merrill. He joined this organization in 1945 after serving with the Corps of Engineers in the U.S. Army. His office and home are in New York City. Some of Bunshaft's more outstanding works with Skidmore, Owings and Merrill are Lever House, New York City; Manufacturers Trust Company Bank, New York City; U.S. Air Force Academy, Colorado Springs, Colorado; H.J. Heinz Company, Pittsburg, Pennsylvania; and Connecticut General Life Insurance Office Building, Bloomfield, Connecticut.

Charles Eames

A noted designer as well as an architect, Charles Eames was born in St. Louis, Missouri, in 1907. Eames studied architecture at Washington University and in 1938, after six years of architectural practice in St. Louis, he won a fellowship at the Cranbrook Academy of Art. At Cranbrook he worked with Eliel and Eero Saarinen, helping to develop the Experimental Design Department. In 1940, with Eero Saarinen, he won first prizes in the Organic Design Competition conducted by the Museum of Modern Art. One of these was for his now famous chair of molded plywood. In the field of architecture, Eames is best known for his own house near Los Angeles, California, skillfully designed of standard building components.

Walter Gropius

One of the most influential international architectural figures of this era, Walter Gropius was born in 1883 in Berlin, Germany. He received his education there and worked with the famed Peter Behrens. In 1918 Gropius founded the Bauhaus which became the virtual preparatory school for the modern international style. He remained in Dessau with the school and designed its famed glass and steel building. He came to America, after an interval in England, and in 1938 became chairman of the Harvard Architectural Department. In 1946 he returned to active architectural practice as a member of The Architects' Collaborative, in keeping with his convictions concerning group design. His pioneering works--Fagus Show Company factory, Alfeld, Germany; and Bauhaus School and City Employment Office, both in Dessau, Germany--are only one measure of a man who is not only a master architect but a master educator.

Harwell H. Harris

Harwell Harris was born in Redlands, California, in 1903. A graduate of California's Pomona College, he has lectured as a visiting critic at Columbia and Yale Universities and was head of the School of Architecture at the University of Texas from 1951-1955. Harris is best known as one of the Pacific Coast's most outstanding residential architects, combining an understanding of modern construction with an appreciation of the way people live. Outstanding examples of his work are the Havens House in Berkeley and the Johnson House in Los Angeles.

Wallace K. Harrison

Wallace K. Harrison was born in 1895 in Worcester, Massachusetts. He left school at fourteen and later took a course in construction engineering at Worcester Tech. At twenty he went to New York and began work for McKim, Mead and White. In the 1930's, he was recognized for his work with the team of architects designing Rockefeller Center and his theme building for the New York World's Fair. Harrison was the planning director of the United Nations Secretariat Building, and, more recently, for the Alcoa Building, Pittsburg, Pennsylvania, and the Corning Glass Center in Corning, New York. His present firm is Harrison and Abramovitz.

George Hellmuth

George Hellmuth was born in St. Louis, Missouri, in 1907. He received his B.A. and his architectural degree from Washington University. The university awarded him a Steedman Fellowship, enabling him to study in Europe. From 1949-1954 he was a member of the firm of Hellmuth, Yamasaki and Leinweber. During these years his outstanding works were apartment buildings in St. Louis and the renowned Lambert--St. Louis Airport Terminal. In 1954 the present firm, Hellmuth, Obata and Kassabaum, was organized.

Raymond M. Hood

Born in Pawtucket, Rhode Island, in 1881, Hood was educated at Massachusetts Institute of Technology and Ecole des Beaux Arts. In association

with John Mead Howells he won the international competition for the Chicago Tribune Tower. He served as consultant on the rebuilding of the University of Brussels and was the associate architect for the Century of Progress Fair, Chicago, 1933. The Daily News Building, New York City, by Hood and Howells, is ranked as one of the world's outstanding buildings. Other notable works are the Beaux Arts Apartments and the McGraw-Hill Building, both in New York City. Hood's work with the group of architects planning Rockefeller Center was the climactic contribution of an architect who built skyscrapers. He died in 1934.

George Howe

George Howe was born in Worcester, Massachusetts, in 1886, and as a child traveled throughout Europe. He attended school in Switzerland and New England and in 1904 went to Harvard, where he was influenced by Charles Moore. In 1907 he went to Ecole des Beaux Arts in Paris. Returning to the United States, he founded a partnership with Mellor and Meigs in Philadelphia and in 1929 he joined with William Lescaze to form the famed partnership of Howe and Lescaze. From 1950-1954 Howe was a distinguished chairman of the Department of Architecture at Yale University. Howe died in 1955.

John Mead Howells

The son of William Dean Howells, John Mead Howells was born in 1868 in Cambridge, Massachusetts. He received his education at Massachusetts Institute of Technology, Harvard, and Ecole des Beaux Arts, Paris. In 1922, he was sent to Belgium by President Hoover's relief organization as commissioner to lay out plans for the University of Brussels. Besides the Daily News Building in New York City, his works include the Title Guarantee and Trust Building and the Chicago Tribune Tower.

Philip Johnson

Philip Johnson is the unique example of a celebrated architectural critic who became an equally celebrated architect. Born in Cleveland, Ohio, in 1906 he did his undergraduate and graduate work at Harvard University. As an author, lecturer, and for over twenty years as director of the Department of Architecture at the Museum of Modern Art in New York City, Johnson has brought the modern movement to the attention of the public. His work--such as his own glass house in New Canaan, Connecticut; the Hodgson House in New Canaan, Connecticut; the KTI Synagogue in Port Chester, New York; and in collaboration with Mies van der Rohe on the Seagram's Building in New York City--has brought him recognition as a leading American architect.

Albert Kahn

Albert Kahn was brought to this country by his parents as a child. He began his architectural career as an office boy to an architect. At the age of 34, with 22 years of experience in architectural firms behind him, he was asked to design his first factory. This job for Packard Motor Company was the first reinforced concrete factory in America. He has specialized in factory design, and today the effects of the industrial

design talent of Albert Kahn can be seen all over the world. Outstanding examples of Kahn's work in the American factory style are the DeSoto Press Shop, Detroit, Michigan; the Engineering Laboratory of the Ford Motor Company, Dearborn, Michigan; and the Dodge Truck Plant, Detroit, Michigan.

LeCorbusier

Charles Edouard Jeanneret, known by his architectural pseudonym, LeCorbusier, was born on October 6, 1887, in Le Chaux-de-Fonds, Switzerland. In 1908, LeCorbusier became an apprentice to Perret, a pioneer in ferro-concrete construction. After two years, he went to Berlin to enter the workshop of Peter Behrens, working there with Mies van der Rohe and Walter Gropius. It was with another architect, Ozenfant, that he founded the revolutionary design review *Espirit nouveau*, after World War I. In 1921 he began an architectural partnership with his cousin, Pierre Jeanneret, and in 1923 his book, Towards a New Architecture, explained the architectural theories expressed in his buildings. Famed for his inventive and aesthetic approach to architecture, his important theories and great works have made him one of the most influential geniuses of our time. Among LeCorbusier's masterpieces are Villa Savoye, Poissy-sur-Seine; Swiss pavilion at the Cite Universitaire, Paris; Chapel at Ronchamp, France; and Chandigarh, the new city in India.

Joseph A. Leinweber

Leinweber was born in Wheeling, West Virginia, in 1895 and received his education at Carnegie Institute of Technology. He was a member of our early Army Air Corps during World War I. He now makes his home in Detroit, Michigan, where he is a partner in the firm of Yamasaki and Leinweber. Some of their better known works are the U.S. Army Research and Development Center, Detroit; Lambert-St. Louis Airport Terminal Building, St. Louis; and the U.S. Army Personnel Records Center, St. Louis.

William Lescaze

A native of Geneva, Switzerland, Lescaze gained architectural recognition in the United States. He has received numerous awards and honors for such works as the famed Philadelphia Savings Fund Society Building, Philadelphia; C.B.S. California Headquarters, Hollywood, California; and Williamsburg Houses, Brooklyn, New York. He is a lecturer and critic at many leading architectural schools.

Eric Mendelsohn

Born in 1887 in the town of Allanstein in East Prussia, Mendelsohn's young life was spent in the shadows of a Gothic church and a castle built by German knights who conquered the country. He studied architecture at Berlin Technische Hochschule and later at a school by the same name in Munich. His first important work was the Einstein Tower in Potsdam, 1920. Then came the Berliner Tageblatt Building with Neutra in 1923. He has been called the representative architect of the age of industrialization and the machine. Mendelsohn died in 1953, leaving many notable works. Among them are the German Metal Workers' Union Building, Berlin; Schocken Department Store, Chemnitz, Germany; and the Temple and Community Center, St. Paul, Minnesota.

Ludwig Mies Van Der Rohe

No master architect has been more aware of this age of science and technology than Mies van der Rohe, and none has designed more magnificently in terms of it. Born in 1886, in Aachen, Germany, he learned building, without academic training, by working from a stone mason's assistant to Peter Behrens' apprentice. A recognized leader of modern architectural thought in post-World-War-I Germany, it was his superb German Pavilion for the International Exhibition at Barcelona, Spain, in 1929, and the Tugendhat House in Brno, Czechoslovakia, in 1930, that brought recognition throughout the world. In 1930, he left the directorship of the Bauhaus in Germany officially growing anti-modern to accept the directorship of architecture at what is now the Illinois Institute of Technology. His buildings for its new campus, as well as his famed Lakeshore Drive Apartments in Chicago, Illinois, and the Seagram's Building in New York City, are masterpieces of a great master.

Pier Luigi Nervi

Nervi, one of the great structural engineers of our time, was born in Sondrio in 1891 and received an engineering degree at Bologna in 1931. He holds a professorship in Technology and Construction Techniques at the University of Rome and is a member of the CIAM. A modern master of pre-stressed concrete, his widely influential works are the airplane hangars of Buenos Aires, the Tobacco Warehouse at Bologna, the Salt Warehouse in Tortona, the Turin Exhibition Halls, and the Olympic Sports Palace in Rome. Through his theory and example he has added shell structures to the vocabulary of modern architecture.

Richard J. Neutra

One of the most highly respected designers in the modern idiom, Richard Neutra was born in Vienna on April 8, 1892, and studied at the universities of Vienna and Zurich. After some years of work in Switzerland, he came to the United States where most of his work has been executed, although Neutra has interested himself in the architectural problems of Latin America and has worked in a number of these countries. Among his well-known California houses are the Lovell House, Los Angeles, and the Desert House, Palm Springs. The Experimental School, Los Angeles, and the Channel Heights Housing Project, San Pedro, are other examples of Neutra's distinctive architecture. His extensive writings are a significant contribution to architectural literature.

Eliot Noyes

Noted as an industrial designer as well as an architect, Noyes was born in 1910 in Boston and received his education at Harvard University. In 1935-36 he served as architect on an Iranian archaeological expedition. For several years he was director of the Department of Industrial Design at the Museum of Modern Art, New York City. His present firm is Eliot Noyes and Associates, New Canaan, Connecticut. Architecturally, Noyes is perhaps best known for his residential work, especially for his concrete "bubble houses" at Hobe Sound and his own award-winning home in New Canaan.

I. M. Pei

I. M. Pei was born in Canton, China, and decided to become an architect after seeing his first skyscraper under construction in Shanghai at the age of sixteen. He went to Massachusetts Institute of Technology in 1935 and later to the Harvard Graduate School of Design. Working on Collaboration with William Zeckendorf of Webb and Knapp, real estate developers, he designed Mile High Center in Denver, Colorado, and Roosevelt Field Shopping Center on Long Island. His firm, I. M. Pei and Associates, is located in New York City and for the most part concentrates its considerable talent on commercial buildings and urban redevelopment projects.

L. L. Rado

A resident of Czechoslovakia until 1939, Rado came to the United States and worked in Boston until 1943. In 1944 he formed, with Antonin Raymond, the architectural firm of Antonin Raymond and L. L. Rado with offices in New York City and Tokyo. Rado received his architectural training at Technical University in Prague and Harvard University. His bold use of modern materials can be seen in works like the Electrolux Industrial Buildings and Recreational Center, Old Greenwich, Connecticut; Reader's Digest Building, Tokyo; and apartment buildings for the U.S. Embassy, Tokyo.

Antonin Raymond

Born in Kladuo, Bohemia, Austria, and educated at the Polytechnic Institute in Prague, Czechoslovakia, Raymond makes his home in New Hope, Pennsylvania. His present firm, Antonin Raymond and L. L. Rado, has offices in New York City and Tokyo. Raymond has successfully combined the techniques of modern European architecture with the Japanese spirit and tradition. Some of the outstanding examples of his work in Japan are St. Luke's Medical Center, Tokyo; U.S. Embassy, Tokyo; and Reader's Digest Building, Tokyo. He is a world traveler and has been honored by many nations for his contributions to architecture and society.

Paul Rudolph

Born in Kentucky, Paul Rudolph received his architectural training at Alabama Polytechnic Institute and Harvard University. Outstanding examples of Rudolph's imaginative buildings are the Sanderling Beach Cabana Club, The Umbrella House, and the Healy House, all in Sarasota, Florida. He has received many honors and awards as an outstanding younger architect and is chairman of the Department of Architecture at Yale University.

Eero Saarinen

Second-generation talents usually have a hard time gaining recognition. It is typical of Eero Saarinen that he is an exception, even though he preferred to work in his famous father's shadow. Saarinen was born in Finland on August 20, 1910, and studied sculpture in Paris and architecture at Yale University. He has his home and office in Bloomfield Hills, Michigan, near the Cranbrook Academy designed by his father. He worked with his father on projects ranging from the Crow Island School, Winnetka,

Illinois, to the Opera Shed at the Berkshire Music Center in Massachusetts. His own work, from the auditorium and chapel at Massachusetts Institute of Technology in Cambridge, Massachusetts, to the vast General Motors Technical Center, outside Detroit, Michigan, has established the young Saarinen as one of the most respected and talented architects of his generation.

Eliel Saarinen

Eliel Saarinen, one of the great architects and planners of his time, was born in 1873 in Rantasalmi, Finland. He received his education in Finland and traveled extensively, making lasting friendships with such famed cultural leaders as Mahler, Gorki, Sibelius, Maroti, and Milles. Saarinen came to the United States in 1923 with his family. He designed and headed the Cranbrook Academy of Art at Bloomfield Hills, Michigan, receiving honors from every corner of the world for his contribution to architecture. Eliel Saarinen died in 1950. With his son, Eero, he designed the Summer Opera House at the Berkshire Music Center, Lenox, Massachusetts; Tabernacle Church of Christ, Columbus, Indiana; and the celebrated Crow Island School, Winnetka, Illinois.

Skidmore, Owings and Merrill

Founded in 1936 by Louis Skidmore and Nathaniel A. Owings, this outstanding architectural organization adopted its present name three years later when joined by John O. Merrill. Today with other partners, and participating associates in New York, Chicago, Portland, and San Francisco, this firm has become renowned for large-scale projects executed with distinguished skill, precision, and imagination. Typical are the celebrated Manufacturers Trust Company and Lever House in New York City; Connecticut General Life Insurance Company in Bloomfield, Connecticut; and government buildings at Oak Ridge, Tennessee.

Ralph S. Twitchell

Born in 1891, Ralph Twitchell was educated at Rollins, McGill, and Columbia Universities, receiving degrees in arts, architecture, and structural engineering. He became associated with the architect Paul Rudolph in 1940, and he lives in Sarasota, Florida. Two of his well-known residences designed in partnership with Paul Rudolph are the W.R. Healy House and the Miller House, both in Sarasota, Florida.

Frank Lloyd Wright

The most famous architect America has produced was also a noted public figure. He brought modern architectural design to the attention of the public. This is perhaps natural for a man whose father was a preacher and mother a teacher, but what was not expected in midwestern America was a genius who would change the course of architecture. Frank Lloyd Wright was born in Wisconsin in 1869, studied engineering at that state's university and worked in Chicago with the master Louis Sullivan. His works, from houses like the Robie House, Chicago, Illinois; the Avery Coonley House, Riverside, Illinois; the Rose Pauson House, Phoenix, Arizona; and the famous "Falling Waters" in Bear Run, Pennsylvania; to buildings like Unity

Temple, Oak Park, Illinois; Taliesin West, Arizona; and the Price Tower, Bartlesville, Oklahoma, show a natural range and imagination unexcelled in modern architecture.

Minoru Yamasaki

Born in Seattle, Washington, Minoru Yamasaki was educated at the University of Washington and New York University and has traveled extensively throughout the world. He worked as a designer with several leading firms before joining the architectural partnership, Hallmuth, Yamasaki and Leinweber. In the many projects of his present firm, Yamasaki and Leinweber, with offices in Detroit, Michigan, he demonstrates the imagination and style which mark him as one of the most promising American architect of his generation.

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June 17 - July 13 (First four weeks)

Home Economics 351--Special Problems in Group Feeding

The production and service of food in quantity, employee training, work schedules, and menu planning are considered. Also, there are laboratory experiences, demonstrations, and individual problems in the home economics cafeteria.

3 hours or $\frac{1}{2}$ unit. 8-12:30 MTWThF. Miss Bonnell, Associate Professor, and Mrs. House, Assistant, Institution Management

June 17 - August 10 (eight weeks)

Home Economics 330--Experimental Foods

The manner in which such variables as ingredients, proportions, and techniques in food preparation affect the quality of the product will be considered. Special problems for investigation are chosen by individuals.

3 hours or $\frac{1}{2}$ to 1 unit. 1-4 MW, 1-5 TTh. Mrs. Janssen, Professor, Foods

Home Economics 375--Home Equipment

Scientific principles are applied to the choice and use of household equipment. Latest models of appliances in the household equipment laboratory are evaluated.

3 hours or $\frac{1}{2}$ unit. 8-11 TWThF. Miss Herndon, Instructor, Home Management

Home Economics 378--Problems in Home Management

Individual choice of special interest problems studied through conferences, original investigation, and written report.

$\frac{1}{2}$ to 1 unit. To be arranged. Miss Goodyear, Associate Professor, Home Management

Home Economics 380--Textiles

Textiles are studied from the artistic, economic, physical, and chemical viewpoints, with emphasis on new fibers, finishes, and fabrics.

4 hours or 1 unit. 1-5MWF. Miss Crouthamel, Asst. Professor, Textiles

Home Economics 388--Problems in Textiles and Clothing

Individual problems pertaining to care and selection of fabrics or to construction techniques in relation to fabrics and fibers are chosen for investigation.

$\frac{1}{2}$ to 1 unit. To be arranged. Dr. Galbraith, Associate Professor, Textiles

Home Economics 410--Problems in Family Living

The emotional and social aspects of family living are analyzed. Emotional significance of problems arising from household management, finances, childlessness, adoption, and care of the aged are studied.

1 unit. 1-3 TTh. Dr. Mowrer, Assistant Professor, Child Development

Home Economics 493--Advanced Studies in Home Economics

Students desiring research experience may choose a library or laboratory project of limited scope in the areas of child development and family relationships, family economics, family housing, foods, nutrition, or textiles and clothing.

$\frac{1}{2}$ to 1 unit. To be arranged. Dr. Dunsing, Dr. Galbraith, Dr. Holmes, Dr. Mowrer, Dr. Osman, Dr. Van Duyne

Home Economics 499--Thesis Research

Students presenting a thesis as partial fulfillment of requirements for advanced degrees register in this course. Opportunity is provided for research in foods, child development and family relationships, family economics, nutrition, or textiles during the 1963 summer session.

$\frac{1}{2}$ to 2 units. To be arranged. Dr. Dunsing, Dr. Galbraith, Dr. Holmes, Dr. Mowrer, Dr. Osman, Dr. Smith, Dr. Van Duyne

Home Economics Education Courses

June 17 - July 13 (First four weeks)

Education 456--Problems and Trends in Home Economics Education

This course introduces the student to significant problems, points of view, and trends in the field. Research relating to organization, content, and techniques in the field is explored. Students are encouraged to make special studies in approved areas. Serves as a refresher course for those who have not been in school recently.

1 unit. 8-11 TWThF. Dr. Simpson, Associate Professor, Home Ec Education

Education 459--Workshop in Teaching Foods and Nutrition

A workshop designed for high school and junior college teachers who have responsibilities for teaching in the area of foods and nutrition. Emphasis is given to ways in which social and economic changes affect foods teaching, results of recent research in nutrition and food preparation, methods of presenting subeect matter, and ways to evaluate one's teaching. Foods, nutrition, and education specialists will serve as instructors in this workshop.

1 unit. 8-11 TWThF. Mrs. Janssen, Dr. Mather, Miss McKey

July 15 - August 10 (Second four weeks)Education 450--Evaluation in Home Economics Education

Theory and techniques of evaluation in home economics at different educational levels; analysis and refinement of instruments, interpretation of results for self-evaluation and guidance, and effective administration of evaluation programs.

1 unit. 8-11 TWThF. Dr. Mather, Associate Professor, Home Ec Education

Education 459--Workshop in Teaching Home Management

A major area of emphasis in today's home economics curriculum, home management is studied in relation to all areas of home economics. Research in home management and methods of teaching will be emphasized through a team-teaching approach by a subject matter specialist and an education specialist.

1 unit. 8-11 TWThF. Miss Guthrie, Assistant Professor, Home Management, and Dr. Simpson, Associate Professor, Home Economics Education

General InformationHousing

A graduate student dormitory, located near the campus, provides single rooms with bath between every two rooms at \$46 a month. Double rooms are \$38 a month for each occupant. Rooms in other campus living units are available for \$35 to \$45 a month. Three meals a day are served at the Illini Union. Cost of room and board in University residence halls is \$195 to \$220 for the eight weeks. For additional information, write to the Housing Division, University of Illinois, 420 Student Services Building, Champaign.

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New students obtain admission blanks from the Office of Admissions and Records, 100a Administration Building, Urbana, Illinois. Former University of Illinois students should apply for readmission unless they were enrolled in summer, regular, or extramural courses during 1962-63.

Tuition and fees

1963-64 SUBSCRIPTION INFORMATION

Volume VII of the Illinois Teacher of Home Economics, to be published in 1963-64, will include six issues. The issues will be published on the fifteenth of the following months: September, October, November, February, March, and April. The price will continue to be \$3.00 a year.

The general theme for the 1963-64 issues is "Home Economics for Special Groups." Such groups as slow learners, fast learners, elementary, junior high, and adult students will be considered.

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And the Editors

This issue is edited by Hazel Taylor Spitze, Assistant Professor, and Elizabeth J. Simpson, Associate Professor, of Home Economics Education, University of Illinois.

Mary Lamb

Many critics of modern education would have the schools return to the educational practices of by-gone years because they believe that newer practices are responsible for the alleged inferiority of our schools today. These critics contend that students today are not learning the basic skills, that they are deficient in reading, writing, and arithmetic and are being passed along from grade to grade without having to master the fundamentals.

However, a comprehensive survey of high-school graduates of 1955, comparing them with the graduates of a dozen years before, shows that these products of the schools are better prepared than they used to be. Despite this evidence of over-all improvement in today's schools, few educators are content to have them stay as they are. Most educators are continually trying to find ways of further improving the schools. Dissatisfaction of this kind on the part of professional and lay citizens is healthy. Vague or unsound criticisms contribute nothing, but intelligent criticisms based on facts can ultimately result in better schools.

One of the unique features of man as opposed to the lower animals is that each new human generation can learn the solutions to some of the problems of living from previous generations. Because he has language and because he undergoes a longer period of socialization, man can draw on the tremendous store of knowledge accumulated by his forebears over thousands of years. Consider, for example, problems of providing food for one's family. As Celia B. Stendler points out,

It is no longer necessary for man to hunt laboriously for his nourishment and to wolf it down without benefit of fire. Over the centuries we have learned how to domesticate animals, to control crops, to process foods, to distribute them to the consumer, and to prepare them safely and easily in the home. Techniques of doing these things have not been perfected; each generation has made improvements in man's ways of solving his food problems. Such improvements are possible because we can profit from the knowledge gained by previous generations. We know the solutions that previous generations have discovered and each new generation can improve upon them.¹

Focus on Discovery

"Education is a process that cannot, I think, be separated from what it is one seeks to teach," says Bruner in On Knowing: Essays for the Left Hand. "It must employ the 'canny art of intellectual temptation.' It must be focused upon the act of discovery for 'discovery, like surprise, favors the well-prepared mind.'" Based on these statements Bruner has a relevant hypothesis to offer.

Emphasis on discovery in learning has precisely the effect on the learner of leading him to be a constructionist, to organize what he has encountered in a manner not only designed to discover regularity and relatedness, but also to avoid the kind of information drift that fails to keep account of the uses to which information might have to be put. Emphasis on discovery, indeed, helps the child to learn the varieties of problem-solving, of transforming information for better use, helps him to go about the very task of learning. It is still in need of testing, but it is a hypothesis of such important human implication that we cannot afford not to test it--and the testing will have to be in the schools.²

Thinking: Is There Enough Substance to Teach?

If, though, there is no longer any doubt that critical thinking can be deliberately developed through education, the question is still asked: Is there enough substance to teach? Of course, all too little is known about the processes of thinking; but why shouldn't students be exposed to the amount that is known? We are still in the dark about cold, cancer, arthritis, leukemia and other diseases; yet these diseases are not excluded from medical education or dietetics.

Known facts and tentative theories about critical thinking provide an abundance of teachable substance. The principles are reasonably clear, and we have evidence that some techniques, although unprecise, are workable.

"Pep Without Purpose is Piffle."--Emerson

It is said that enthusiasm without knowledge is like haste to a man in the dark. As teachers our enthusiasm and pep may seldom be questioned, but do we have the necessary knowledge and purpose to permit our pep to percolate?

Our purpose, to educate for family living with emphasis upon problems of personal living, is more easily identified than the methods by which we strive to cultivate the aptitudes, attitudes, and abilities--to think effectively, to communicate thought, to make relevant judgments, and to discriminate among values. With the increasing demands upon the time of home economics teachers, it is possible for purpose to be quickly submerged in the mass and maze of paper clips, market orders, and report cards. Purpose must not get lost in the haystack of trivia!

The cultural and social changes taking place, both nationally and internationally, demand that home economics teachers examine their course outlines carefully, up-date their objectives, and readjust their methods, to provide classroom experiences that can be the most helpful in promoting critical thinking processes.

Is Our Age Unique?

It is becoming common--at least in Western thinking--to assume that our time in history is a unique one. A.L. Rowse presents a very enlightening and balanced answer to this question in the Saturday Review. Although he deals with political, economic and sociological factors, I believe that his closing statement carries strong implication for home economics teachers: "Everything, then, enforces the conclusion that, given all the various circumstances of our time, cooperation is now essential to survival. And that IS something unique in history."³

At a recent meeting of the National Youthpower Congress, President Kennedy said, "Our youth power of today is the leadership of tomorrow." In building good health, we can be sure that food plays an important role.

Studies, summarized by Dr. Agnes Fay Morgan, of the diets and physical condition of about 12,000 persons throughout our country, ranging from children aged five, to adults past eighty years of age, were made during the years from 1947 to 1958. Nutritional status on the whole was good--"probably the best that has ever been reported for any similar population groups." However, important problem areas stand out:

- * Poor diets of teen-age girls
- * Overweight, especially in adults
- * Nutrients most likely to be deficient in all age levels and in all four regions of the country were calcium, iron, and vitamins A and C.⁴

Dorothy E. Jones, Directing Supervisor of Home Economics in the Cleveland Public Schools, has stated:

The continued teaching of more and more facts concerning good nutrition and basic information on food selection, care, storage, meal planning, and food preparation is essential to good eating and good health. It is also necessary to teach these principles as a safeguard against the mounting concern for crash diets, food substitutes, ingenious salesmanship and scare advertising aimed at a gullible public.⁵

Rapid advancement in our knowledge of the importance of good food to our health and well-being adds a new factor which influences increasingly the diet of an informed public. Parents, school lunch-room supervisors, and dietitians are particularly interested in the nutritive value of food. This interest is founded on the wish to influence the dietary habits of children so that their choice of foods will give them the greatest opportunity for continued nutritional health. The home economics teacher has an important part in the education of our youth in practices of good nutrition.

Research has shown that ignorance is by far the greatest barrier to good nutrition; combined with poverty, as it often is, this barrier becomes a formidable problem. Still another kind of barrier is indifference. Nearly every teacher knows of students who have been exposed to the teachings of nutrition but have not been motivated to improve their food habits. How can the home economics teacher, facing these problems, teach the principles of nutrition and develop the processes of critical thinking?

We must be convinced

Some home economists feel that one of the bigger problems in home economics education today is that teachers spend too much time talking about what they are "against." Consequently, there is not enough time and energy left to be really "for" anything.

It is much easier to be against the other teacher's idea than it is to come up with an idea of one's own, but if one is against something, then he has to be for something also. The following story illustrates:

While traveling through an apple-growing area, a man stopped to watch a farmer spraying his apple trees to prevent codling-moth damage to the apples. The man asked the farmer, "How come you are so dead set against the codling moth?" The farmer replied, "I'm not really against the codling moth, but I sure am for apples."

Like the farmer in this story, we should direct our actions and energy toward what we favor. By doing so, we automatically let others know what we are against.

Our students are NOT helpless, BUT

Quite often in the spring a bird will accidentally fly through an open window into the lecture hall. For several minutes it frantically flies against the ceiling and windowpanes, despite the fact that several windows are open. This bird has only one approach to the problem. Usually, when a student stands up and with waving arms forces the bird to go in another direction, it finds its way out. Occasionally, however, it is almost impossible to force the bird to change direction.

Sometimes people are like these birds. We persist and persist in just one direct attack. Some are flexible enough to take a fresh look on the problem, if somebody gives them new direction by providing a fresh viewpoint. On the other hand, others refuse to consider any new approaches, even if they are pointed out to them.

Both types are present in the classroom, and teachers need to make conscientious and persistent efforts to encourage these students to "move."

An Emphasis on Thinking by Problem-Solving in Teaching Nutrition

Life presents one problem after another and, when habitual behavior cannot be relied upon, one must make decisions. The problems may be rather simple, such as when to eat breakfast, what to serve at a party, or what brand to buy; or they may be complex and difficult, such as whether to make a major change in the family food budget or whether the mother should accept a job outside the home to increase the family income. In all of these problem-solving situations in which decisions are made, essentially the same thinking process must go on.

Preliminary work of the teacher: setting up objectives

To develop an understanding of a problem-solving method by applying it to the problems in the food and nutrition class, the objectives must be determined by teacher and class. An objective is defined as a statement of purpose which gives direction to learning. One classification of objectives provides three categories:

- a) Performance (abilities and skills)
- b) Cognitive (knowledge and understandings)
- c) Affective (interests, desires, and appreciations)⁶

Criteria for an objective have been suggested as follows:

- * Clear
- * Specific
- * Achievable by the majority of the group
- * Permitted by available resources
- * Comprehensive
- * Socially desirable
- * Limited in number
- * Not overlapping⁷

Classroom teachers may find it helpful to classify their objectives according to Bloom's Taxonomy of Educational Objectives⁶, when planning courses of study. Classification of objectives:

- 1) Helps refine objectives for clarity
- 2) Helps both teacher and students to see the levels of difficulty in the work planned
- 3) Helps in planning sequence on the program
- 4) Aids in determination of learning experiences and teaching aids by the teacher
- 5) Serves as a guide to evaluation of both the students' work and the success of the unit of study
- 6) Serves as an over-all check on the depth of the program⁷

Below is given a list of objectives a teacher might want to adopt in teaching the problem-solving method in connection with foods and nutrition classes.

- I. Attitude of greater intellectual curiosity
- II. Increased appreciation for clear, objective thinking habits
- III. Increased understanding of the problem-solving method
- IV. Attitudes positive to creative thinking
- V. Ability to apply problem-solving method to problems in life
- VI. Habits of intellectual honesty and objectivity in considering problems, questions, and issues
- VII. Recognition of the value of suspended judgment
- VIII. Recognition of the role values play in decision-making

Levels of understanding

Kenneth Henderson⁸ of the University of Illinois has suggested five levels of understanding, or mastery, which may be of help to some teachers.

Level I: Repetition--(Henderson feels that this is not really a true level of understanding but a foundation on which to begin.)

The student merely repeated verbatim what he has read or heard in class; he may have little understanding of the statement or of the meaning of the words.

Example: T.-"What foods are the best sources of protein?
S.-"Meat, poultry, fish, and eggs, and legumes are excellent sources of protein."

Level II: Paraphrase

The student has enough understanding of the problem or statement to explain it in his own words.

T.-"What foods should we include in the diet daily to insure an adequate intake of protein?"

S.-"One to three servings of meat, poultry, fish and legumes should be included. A daily diet which includes one pint of milk, one serving of meat, and one egg or a serving of legumes would provide adequate protein for most adults."

Level III: Application (with cues)

The student has developed enough understanding to apply the information with cues or in a given setting.

T.-"We have a number of food items displayed here on the table. Select food from this display and plan a protein-rich menu for one day for an adult."

S.-(The student is able to do this satisfactorily.)

Level IV: Application (without cues)

The student understands the information so well that she can apply the knowledge to situations removed from the original learning situation.

S.-(to committee members planning refreshments for a party) "Let's not have cokes and candy this time. Let's have more wholesome foods."

S.#2--"WHY?"

Level V: Justification and Explanation

The student is able to apply her knowledge in many different situations, can justify these ideas, defend her opinions, and explain the reasons for the decisions.

S.-(in answer to S.#2) "Snacks can supplement our other foods to help meet the daily requirements of different food nutrients. Milk, ice cream, roast beef and peanut butter are rich in protein, which is necessary for growth and tissue repair. We can make tasty refreshments using these foods."

The question "WHY?" can be the key to teaching for depth. It can call for facts, judgments, and ideas; it calls for explanations, and justifications of all kinds. Rephrasing questions to ask the "WHY?" encourages the student to seek out the answer or justify an opinion or decision.

In referring to the above, what responses could a teacher get if she asked, "What possible reasons might students have for selecting protein-rich foods?" Would the thinking demonstrated in answering this question

differ from one that asked, "What can we do to get students to select snack foods more wisely?" Questions asked for effective explanation or justification will usually begin with "WHY?" or "For what reasons?". Questions asked for added creative attack, such as in problem-solving, will usually begin with "How," or "In what ways. . .?". The "In what ways" and "For what reasons" approach is often better because it indicates the plural, whereas the "how" and "why" imply that one answer is sufficient.

Encouraging positive attitudes

Many opportunities to encourage development of the scientific characteristics and attitudes of questing, persistence, objectivity, and open-mindedness present themselves in the class situation, but are often missed. Students are full of curiosity in their early years and lose this quality only when it is discouraged.

Too often teachers and parents say:

- "We don't have time for that now."
- "But we aren't on that topic."
- "You'll find out later on."
- "That's too hard for you to know or answer now."
- "Look it up during library time."
- "Ask your father tonight."
- "Don't ask foolish questions."
- "That won't work; classes have tried it before."
- "It'll cost too much."
- "That was thought of long ago."
- "If that idea were any good, somebody would have tried it before."

In effect, they say to students that their questions and ideas are not important, that they take up valuable time that should be spent on something worthwhile.

John Arnold has stated:

Our excuse for inhibiting questions in schools is that we have so many facts and techniques to present to the child that we can't waste time on these perhaps interesting but irrelevant diversions. We teachers ask all the questions and then the students give back to us the answers we previously gave them. Now, while it is essential that the student know the answers to our questions, I am sure that he will have a better understanding and an appreciation of these answers, if he accepts them with some question, if he is encouraged to speculate a bit to see how things might have been, if something or other were changed.⁹

Remarks which indicate to the student that she has an interested and appreciative listener who has a high regard for what she is doing, and who is willing to take the time and effort to help her explore her ideas further, have a much more positive effect. Examples of these are:

"Carol has something important to ask us."

"That's a good idea to try out, Sally. How could you test it?"

"What caused you to question that, Barbara?"

"Well, let us give this problem a fresh look."

"There surely must be a better way to do the job."

"Why can't we make a break-through by all working together?"

Sensitivity to problems

Among the characteristics identified with the critical thinker is that of sensitivity to problems. The highly creative person tends to "feel" problems inherent in a situation, whereas the less creative person may be oblivious to these problems.

Have you ever locked your keys in your car, and when so involved in trying to find some way to reach the keys in the ignition (through a crack at the window) were stunned to watch the garage man, with a short wire, calmly reach just inside the door with the wire, and catch either the lock or inside latch?!? This is a situation in which the real problem is not recognized--"How to get the door open?" rather than "How to get the keys?" And how many mothers find meal time unpleasant because Junior won't drink his milk. Here the real problem may not be, "How can I force the milk down?" but "How can I be sure that Junior gets a well-balanced diet, since he refuses to consume milk as a beverage?"

Another common example of not recognizing the problem is the case of the extremely overweight woman who, although she constantly goes to the doctor for headache pills, heart medicine and advice, disregards the advice to cut down on food intake and takes more pills. This is a vicious circle and the results can be fatal. Luckily, not all problems present such serious consequences but proper identification of the problem is the first step toward settling any difficulty.

It goes without saying that problems are seldom spelled out for us in real life. It is only when we and our students learn to define the specific problems that we begin to make progress.

Problem selectivity

As one of the first steps in unit planning, the teacher may compile a tentative list of problems for study clustering around the core of the unit. Later, students may help revise this list. The selection of problems should be based on the class members' ability. The teacher should try to anticipate the areas in which students are likely to have erroneous concepts, inadequate concepts, or a need for completely new concepts, and to help students identify problems, the solutions to which require the acquisition of correct concepts and generalizations.

In order to formulate or recognize relevant problems, it is necessary for the teacher to know the subject thoroughly enough to be able to reorganize it in terms of these problems. It is one thing to know enough nutrition to prepare a lecture on the uses of protein in the body and

quite another to be able to converse fluently on the subject when someone announces she is on a crash diet or a welfare client asks how she can afford meat every day.

It is important to consider students' interests in choosing problems, but interests or preferences are insufficient reasons for including inconsequential, trivial, or otherwise questionable areas for study. The question, "How do the various tribes in New Zealand secure a year's supply of food?", may be interesting to the students, but class time should not be spent on this, unless in such a study important principles are learned which can be applied to the students' own lives.

Stating a problem

Suggested solutions to a problem may depend a great deal upon the way in which the problem is stated. Sometimes a hierarchy of statements or questions would help, such as:

- 1) Questions that help students realize that: Special problems such as obesity, underweight, and skin disorders can often be related to food intake.
- 2) Questions that help students understand that: Family members often have similar eating habits, which may account for the tendency toward fatness or thinness sometimes observed in several family members.
- 3) Questions that help students to realize that: Hereditary factors may set limits, but within those limits nutrition can help the individual to attain optimum growth and development.
- 4) Questions that help students recognize that: Nutrition affects how individuals grow and develop through its interplay with hereditary factors related to the chemistry of the body.

When a problem appears to be almost impossible to solve, analysis may show that several smaller problems are involved. The recognition of the sub-problems is an early step in getting organized for the attack.

Fact-finding

When the more promising sub-problems have been clearly stated, the next step is to gather facts pertinent to each. The importance of such fact-finding cannot be over-emphasized.

Teach how to test each idea systematically

One of the most widely accepted objectives of education is to teach youth to test reality, to give them a realistic picture of the world in which they live. Yet it has been observed that at all levels of education

and in many areas of adult life the rejection of brilliant and imaginative ideas with no testing, has taken place. Teachers should show students how to define a problem and keep testing each suggestion systematically. For instance, in a practical problem situation, the teacher or the class might identify the different ways it might be solved and encourage the students to try out the various possibilities. After such trials the student could then be permitted to decide for himself which is best.

Verification of collected facts

There are many ways information may be gathered, but how can it be verified as fact? Below is a list of some of the ways and suggestions as to how they might be used in food and nutrition classes.

KIND OF PROBLEM	WAYS OF COLLECTING EVIDENCE
Is skipping breakfast a habit in the local school?	Take surveys among the students
Does the intake of fatty food and carbohydrate foods affect the health of the skin?	Experiment: Students with skin problems can (under a doctor's supervision) alter their diets to a lower fat and carbohydrate intake for a period of time to determine the effect
Does temperature and length of cooking time have effect on tenderness of protein foods?	Laboratory lessons designed to demonstrate this
How does nutrition affect personality, vigor, and ambition?	Consult research results which have been published
Can educational programs be effective in helping low income families improve buying habits	Tryout, by offering clinics, adult classes, etc., and evaluate the results carefully
How can we find evidence that students' daily diets are furnishing the minimum daily requirements?	Calculate the amounts of various food nutrients present in a given menu, and make comparison with the minimum daily requirement chart
What factors and discoveries led to nutrition as we know it today?	Consult records and history sections of science and reference books
Is it more economical to buy fresh grapefruit or canned grapefruit this season?	Make a comparison study of price, quality, and amount, etc.
Is this cake an acceptable product?	Value judgments in relation to established norms

Ways of making decisions

There are many ways to reach a decision. Although we should try to encourage our students to make decisions through organized systematic thinking, it is well to point out to them that even then decisions are often greatly influenced by hunch, prejudice, set conviction, or similar evident or suppressed feelings.

Moore suggests these ways of reaching a decision:

- 1) Toss of a coin
This is often used when one way seems as good as another and nothing can be accomplished by debate
- 2) Checklists
A list of points to be considered is made and each point is studied carefully; the danger is that some important point may be omitted
- 3) Advantages versus disadvantages
This is the method of setting forth the advantages and disadvantages of each alternative. It is easy here to forget that one advantage may outweigh a whole list of disadvantages, or vice versa.
- 4) Highest rank
If the desirable features of a decisions are known then the weighting method lends itself to ranking of alternatives.
- 5) Compromise
This occurs when the process of ranking led to the proposal that some parts of several alternatives be combined to form a compromise solution. The weakness is that everyone loses something.
- 6) Committee
By the use of committees, fuller communication, greater understanding, and better willingness to accept a decision is often accomplished.
- 7) Delay
Often the direction and scope of a decision can be better sensed by suspending judgment. Often time and circumstance help to solve or dissolve the problem, although delay can sometimes increase the difficulty.¹⁰

Problem-solving in nutrition

Are we ready now to look into some of the problems of nutrition for critical thinking? As an outline for this educational process, the listing of nine steps for problem-solving can provide a workable framework. While they are listed as nine distinct steps, it should be obvious that they rarely occur in this pure form. This sequence is apt to be cyclic rather than straight-through.

A case situation

Miss Bryton, the home economics teacher, is aware that the Homemaking II class is bored with the review of nutrition and meal planning principles which they have studied the previous year. For her objectives she has listed the following:

- * Increased understanding of the principles of nutrition
- * Increased skill in planning and preparing well-balanced meals
- * Increased understanding of the nutritional needs of children, as well as of adults and teen-agers
- * Ability to determine the nutritional requirements of people of all ages
- * Increased skill in management of time, energy, money and equipment in planning, buying, storing, preparing and serving food
- * Increased skill in working effectively with others
- * Increased understanding of the problem-solving method through application to problems in foods and nutrition

Meanwhile, there have been some cooperative efforts between Miss Bryton and the elementary teachers to develop an effective nutrition program in the elementary school. As one of the outcomes of this program, Miss White, the fourth grade teacher, asks Miss Bryton to give some suggestions for planning the lunches for her class. The fourth grade class is composed of twenty boys and girls with a variety of family backgrounds. Many of them either skip lunch, bring sack lunches of all types, and eat a candy bar or a doughnut at noon.

After considering this problem, Miss Bryton realizes that this can furnish some valuable learning experiences for her Homemaking II class; if carefully planned her objectives can be achieved. She discusses her ideas with Miss White and the administrators. Later, an invitation to plan, prepare, and serve lunches for the fourth grade for two weeks is presented to the class.

I. The Problem is Met and Recognized

TEACHER:

The teacher reads the letter to the class and explains briefly the "history" and what might be involved in such an activity.

The teacher by asking questions tries to help the students understand the way they reacted to the invitation.

"Why do you feel this way, Jane?"

"Why do think it would be interesting?"
etc.

For what reasons do you think that this might be a worthwhile class project?

The teacher writes on the board the goals that they work out together (They are similar to the ones Miss Bryton has set up earlier.)

"If we were to do this project, what would be our first step-- what is our big problem?"

Writes on the chalkboard:
Step 1--Identifying the Problem

Teacher writes problem on the board

STUDENTS:

The students discuss the possibility of accepting this challenge, giving free opinion and personal ideas.

"It sounds like fun."

"Why do we have to worry about what fourth-graders eat?"

"I think it would be very interesting."
etc.

They discuss reasons, showing facts, opinions and ideas, many of which are based on value judgments.

They list things they would hope to accomplish from such an experience.

Discussion, with the problem being stated as follows: "How can we learn to plan, prepare, and serve childrens' meals which are well-balanced and attractive?"

II. A Decision is Made to Try to Find a Solution

The teacher writes on the board:

Step II--We have decided to
work on the problem

The group decides to work on the
project.

III. Conditions are Analyzed

Since we have identified our
problem, what is the next thing
we need to do?

Class responds:

"I don't know what fourth
graders like to eat."

"My mother won't let Johnny
eat candy."

"How much do they eat?"

"It seems as if we should
find out their likes and
dislikes."

"How are we going to plan an
adequate diet, when we don't
know what they eat for
breakfast?"

"Who's going to fix the food?"

"Who will buy the groceries?"

"I have some ideas!"

"Let's ask them what they like
to eat, and what they eat
for breakfast and supper."

"Where will we serve it?"
etc.

You have raised many questions
which indicate that you know
the next step--to analyze the
conditions.

As we have discussed our objec-
tives and asked these questions,
you have indicated many things
which you need to study further.
What are some things we will
need to know to solve our
problem?

You have thought of many important points. Let's stop now, look at the list and see how many are related. In other words, we have indicated many smaller problems which we will need to solve; let's determine what they are.

You have decided that two big problems need to be solved, and have discovered that many questions will have to be answered before our final plans can be made.

IV. Facts are Assembled

What information do we need in order to solve these problems?

Class discussion brings out points related to meal planning, time involved, responsibilities of each class member, financial questions, where food would be served, how it would be served, what additional equipment they would need, sources of quantity recipes, etc.

Class arrives at the decision that these questions need to be answered:

1. What food will they serve to the fourth graders to furnish a well-balanced diet?
 - a. What do they eat at breakfast and supper?
 - b. What are their likes and dislikes?
 - c. What is their minimum daily requirement?
 - d. What foods are available?
 - e. What are the reasons for their present food habits?
2. Where, when, and how can we serve the meals?
 - a. Time for preparation, service, and cleanup
 - b. Location--space and equipment
 - c. Financial arrangement
 - d. Sources of recipes
 - e. Others

The class decides to break up into groups and assemble facts for specific facets of the problems.

The teacher guides students in collecting information.

Group I--Plan what foods to serve

1. Construct survey sheets for fourth graders
2. Give survey in class room
3. Analyze the results to determine:
 - a. which food groups are missing
 - b. what likes and dislikes are prevalent
4. Plan menus to supplement breakfast and supper, referring to the Basic Four

V. Facts are Evaluated

Teacher works with each individual group to evaluate facts and make decisions

Each group continues to gather and evaluate facts, and to make suggestions for the next procedure

As the groups try to reach decisions and seek solutions, the teacher often asks such questions as:

Does this point call for ideas, facts, or judgments?

Can you substitute?

Who else instead?

What else instead?

Other material?

Other process?

Other place?

Other approach?

Other time?

Can you rearrange?

Would it help to reverse the order?

Could you combine certain factors?

Could you put it to other uses?

Could you adapt it?

What else is like this?

What other ideas does this suggest?

Could it be modified?

New twist?

Changing meaning, color, motion, sound, odor, taste, form, shape?

Other changes?

Can it be magnified?

What to add?

More time?

Stronger?
 Longer?
 Can it be minified?
 What to subtract?
 What to condense?
 Lower? Shorter?
 Split up?
 Less frequent?

Groups come back and report to the whole class the outcomes in relation to the facts found and analyzed

VI. A Trial Solution is Found

The teacher directs the formulation of the formal plans, pointing out that this, too, is an important step in problem-solving.

Each group presents the solution to their portion of the problem, and the plans are coordinated.

Detailed plans for action are set up

VII. Solution is Tested

We are now ready for our next step--to test our solution.

Teacher guides these activities very carefully, pointing out errors in thinking and stressing clear thinking in all situations

The meals are analyzed to determine whether the menus meet the minimum daily requirements. If they are low, the menus are adjusted until adequate amounts are attained.

The class plans, prepares and serves the meals to the group, according to the plan

VIII. If the Solution is Workable, It is Accepted; If not, Another is Tried

Teacher leads the class through a careful evaluation of all phases of the project, with original goals in mind

Daily evaluation by discussion
 Oral examinations (individual)
 Observation
 Written examinations
 "Response" forms from fourth graders
 Summarizing remarks by fourth grade teacher

IX. The Solution is Applied when Similar Problems Arise

The teacher guides the class to state generalizations that they have developed and to see how these can be applied to similar situations.

The class decides to:
 Keep a record of weekly food intake
 Analyze it according to the minimum daily requirement chart
 Study results to determine where their diets could be improved
 Keep a record the following week
 Analyze to see if they have improved
 Make a conscientious effort to continue eating wholesome meals

Semantics

Burton states that:

Semantics is the study of the meanings of words. It enters into critical thinking whenever ideas are exchanged through spoken or written language--that is, in nearly every kind of problem. In recent years we have become increasingly aware of the fact that two persons can start with the same information and describe it in ways that are different because of the words they choose. The language can differ in its emotional suggestiveness, its abstractness, or its use of figures of speech, and in other ways. . . .

In our daily life we have advertisements which make use of clever tricks with words to entrap the unwary reader. . . . A study of word meaning can be a protection to the average citizen.¹²

Today, the literature on nutrition is sprinkled with words that have become household terms to some but that hold little meaning for the average boy or girl. "Vitamin" or "enrichment" is familiar to today's teen-ager as "something good for you," but the words fail to produce any vivid mental picture directly related either to the present or the past. Instead of being a captivating and challenging experience, for some students the study of nutrition remains dull, because they do not understand the definitions of the words used.

Burton defines definition as some process by which we make clear to another person the meaning of a word.

At the concept level, the ideas associated with a word, or with the referent to a word, are built up by direct experience, by reflection upon experience, or by specification, that is, deliberate agreement to attach a certain meaning to a word.¹²

A clear understanding of the meanings of words used in the classroom is a basic step toward understanding of information studied. Various methods are used to define words.

* By genus and differentia

(A grapefruit is a yellow fruit, shaped like an orange.)

* Comparison

(A grapefruit is like an orange, but is larger, yellow, and has a more tart flavor.)

* Synonym

(Another name for vitamin C is ascorbic acid.)

* Pointing

(That is a grapefruit.)

* Example

(Grapefruit is an example of a fruit.)

* Translation

(Apple = Pomme)

- * By operations--the meaning of a term lies in the operations, the thing done to establish its validity
(A refrigerator is an appliance with lowers the temperature of food to keep it from spoiling.)

Many errors occur in the use of definitions. These should be pointed to the student, and efforts made to correct them. Doris Ruslink suggests that students may find challenges and pleasures in seeking out the origin and history of words common to the field.¹³ How we do it is not important. The fact that we do it effectively is important!

Forming concepts and generalizations

Students form and reform concepts without benefit of formal instruction. Teachers, however, can assist the process. They can guide the formation of concepts in areas of learning which are completely new to the student, and they help the students to review existing concepts. In guiding concept formation, the teacher applies the four essentials of learning: drive, cue, response, and reinforcement. The teacher guides concept formation in the following way:

- 1) The teacher decides on the concept she wishes students to form and lists the generalizations clustering around that concept.
- 2) She structures the teaching-learning situation in such a way that students recognize a problem. (motivation)
- 3) She guides students, through concrete experiences, if possible, to discover and recognize the common elements in the concept. (cues)
- 4) She provides repeated opportunities for students to test the concept by trying out its applicability in different situations. (response)
- 5) She shows her approval of correct responses. (reinforcement)
- 6) She provides for a satisfactory solution to the original need. (additional reinforcement).¹

A teacher must have generalizations well in mind when she begins her planning. Hanna states the case for this procedure very clearly:

A child may have many worthwhile and enriching experiences during the development of a unit of work but he may miss the underlying basic-social principles. To avoid this the teacher must be ever alert to the concepts, conclusions, and generalizations that are intrinsic to any sound unit study. In order to be alert to these important basic-social principles and insure teaching-learning situations that will make them clear and meaningful to children, the teacher should formulate the most important one for himself before beginning the unit. If these are kept before him as the unit develops, they will not be neglected.¹⁴

In selecting concepts and generalizations, as in selecting problems for study, the teacher must be careful not to emphasize insignificant material at the expense of more important learnings.

Thinking through concepts and generalizations ahead of time gives the teacher an opportunity to plan for psychologically sound methods of presentation. In teaching a unit on nutrition, for example, the teacher who has planned beforehand does not guide students toward forming the generalization, "We should not eat between meals," or "We should not eat milkshakes, cokes, and french fries after school each afternoon," for she knows that such a dictum would have little or no effect upon students' eating habits. She might plan, rather, to stress one of the following generalizations:

"Well-chosen snacks not only give a sense of well-being but they supplement the day's meals so that total food intake fully meets the individual's requirements."

"If snacks provide nutrients not liberally supplied in the three meals of the day, they can help in maintaining health."

"Snacks comprise an appreciable portion of the day's food for many people, and should be highly nutritious."

Or the higher generalization: "Good nutrition is promoted by wise distribution of foods among meals and snacks."

As students begin to understand new problems and see relationships between concepts, verbalizing the statements is helpful. Conscientious guidance and persistence of both the students and the teachers is needed to learn to state a generalization well.

When stating generalizations, particularly those showing relationships, certain phrases occur again and again. By being aware of these phrases, people find it easier to put their thought into words. They are:

- . . . contributes to . . .
- . . . is dependent upon . . .
- . . . are influenced by . . .
- . . . is related to . . .
- . . . will be enhanced . . .
- . . . is facilitated by . . .
- . . . is affected by . . .

To improve clarity, to promote accuracy and to define facts, a list of guides to improving generalizations follows:

- 1) Eliminate value words and vague words
- 2) Avoid prescriptive statements
- 3) Keep in mind levels of generalizations
- 4) Check on the support for the statement
(Is it a factual statement rather than a statement of opinion and belief?)
- 5) Note whether it promises to remain true for the foreseeable future

In order to develop a generalization that is stable and concrete, it is necessary to approach the problem from many angles, so that the application of the generalization will fit all the varieties of situations in which it will be applied. Thus, if a teacher wished to convey a generalization she would be wise to present to her class many situations to which this generalization would apply rather than develop one situation fully and have the students perceive only the relationship between that one situation and the generalization. It is the wise teacher who develops a situation and directs the thinking of the students to the extent where the relationship is obvious but does not satisfy the student to the point where he is content to blindly accept what he has just discovered.

Identifying errors in thinking

"All Indians," said the traveler, "walk single file." "How do you know?" he was asked. "Well," he answered, "the one I saw did."

This was taken from a joke column, but it is a sobering thought when we realize that people many times form opinions this hurriedly and without serious analysis of the facts.

Consider the statement made by a woman ordering lunch in a restaurant, who said, "I want to lose weight; just give me buttered toast, tossed salad with thousand island dressing, and coffee with cream."

There are so many fallacies and unsound beliefs connected with food and nutrition, that the identification of errors in thinking deserves particular attention in the foods and nutrition classes. Both personal observation and findings from scientific research tell us that the factors that prevent people from improving their food habits are:

- * Ignorance
- * Prejudice
- * Habits related to family, nationality, race, etc.
- * Fads and false advertising
- * Complacency--satisfaction with the way things are
- * Poverty

Conscientious effort to overcome these obstacles to good nutrition needs to be made continuously in our classrooms.

Examples of the many types of errors in thinking, including use of propaganda, stereotypes and cliches, quotations from spurious authorities, generalizations based on too few facts, emotional bias and prejudice, false analogies, rationalizations, contagious thinking, wishful thinking, black-and-white thinking, self-interest thinking, and misconceptions can be found in any classroom very easily. How can we encourage students to identify these errors?

Here is one suggestion: The teacher reads the following case studies to the class to illustrate two extreme deviations from sufficient amounts of nutrients. Pictures could be shown to reinforce them.

Yoshi's widowed mother, who has been ill with tuberculosis for many years, died, and Yoshi was placed under the care of a government agency in China. She had been on a diet of cereal products, mainly rice, for the last six months, and now at fourteen months of age was a very pathetic-looking little girl. She had cut only one tooth, her bones were misshapen and she had a very large abdomen--symptoms typical for the disease of rickets.

On the other hand, Joan is the only child of Mr. and Mrs. Walter, a middle class family. Mrs. Walter grew up under impoverished conditions and wants to make sure her daughter has a better start in life than she did. She has followed the book to the letter regarding her four-month-old daughter's diet. However, she doesn't want to take any chances and gives her daughter two times the recommended amount of cod liver oil daily. Lately she has been distressed to note that her baby has been very pale, listless, and has had a persistent upset stomach. Today, she was horrified to hear from the doctor that the cause of her child's distress could be a result of an overdose of vitamin D in the form of cod liver oil. As she exclaimed her dismay she mentioned also to the doctor that she and her husband also took vitamin pills daily and usually take twice as many in the winter.

After these case histories have been read to help the students realize the problems existing in our country and in other countries, a questionnaire could be completed by the students to determine their beliefs.

Pretest

Answer the following statements by placing a T or F to the left. Be prepared to defend your answers.

- _____ 1. It is a good health measure for adults to take vitamin pills, especially in the winter.

- _____ 2. Children's nutritional needs can be met by their eating a fraction of the diets of adults.
- _____ 3. Protein needs are constant throughout life.
- _____ 4. Caloric value of foods becomes lower as the water and fiber content increase.
- _____ 5. The body can store protein indefinitely.
- _____ 6. A plentiful supply of carbohydrate and fat will make up for a severe lack of protein.
- _____ 7. Vitamin D and phosphorous are necessary to utilize calcium effectively.
- _____ 8. All vitamins can be stored in the body.
- _____ 9. The recommended amount of milk for adolescents is four cups or thirty-two fluid ounces per day.
- _____ 10. One serving of meat, fish, or poultry is necessary per day.
- _____ 11. Only two servings of vegetables are necessary per day according to the Basic Four recommendations.
- _____ 12. Physical activity causes variability in caloric needs of people of similar size.
- _____ 13. Activity has no effect on protein requirements.
- _____ 14. In many parts of the world children are suffering from diets in which the protein content is low and primarily of vegetable origin.
- _____ 15. Four hundred International Units of vitamin D are recommended for all growing persons, and expectant and nursing mothers.

The correct answers could be given so the students could be able to discuss the results of the pretest. The following questions could be used to initiate discussion:

Of what significance is Yoshi's condition to us?
 How does it apply to our continent?
 Do we have these severe deficiencies existing in our country?
 What indications of deficiencies do we have?
 Do you think Mrs. Walter's attitude is a prevalent one?
 Do any of you know people who have similar ideas?
 What are some of the misconceptions that you have held about nutrition?

During this discussion the instructor can strive to promote logical thinking on the following crucial points:

- * Recognition of false ideas and misconceptions about nutrition
- * Realization of the importance of nutrition
- * Acquisition of knowledge about the recommended amounts of various nutrients
- * Development of an understanding of the function of nutrients
- * Recognition of the relation of good nutrition to health

During the time, also, the instructor could see that the students have accurate definitions of all terms used. Nutrients, recommended amounts, food values, misconceptions, are a few terms which might need clarification.

Some other common errors or partial truths heard in classrooms:

Drink lots of juice to get rid of colds.
 You do not need to eat as much when you are sick.
 People who eat good meals should not get sick.
 The condition of your teeth does not affect what you eat or how your body uses the food that you eat.
 If food is cooked properly and all parts of the food are eaten in a balanced diet, you will be healthy.
 If you are not hungry, then you do not need to eat.
 Thin people are that way because they do not eat very much.
 Overweight people eat too much because they like food.
 Overweight people eat too much because they are worried about something.
 Sleep has no effect on appetite.
 The way you sit does not affect the food you eat.
 Exercise determines how much you eat.
 Dinner time is the only time the family gets together. This is the best time for family discussions and discipline.
 It does not matter whether you eat fast except that it is displeasing to see.

Generalizations

- * Careful pre-planning and structuring of problems by the teacher enhance the value of problem-solving experiences for the class.
- * Motivating experiences enhance class learning and active class participation.
- * Real-life problems, presented for class consideration, promote class enthusiasm and practical application.
- * Definite understanding of generalizations promotes transfer of application to new situations.
- * The realization that the basic problem may lead into many related problems enables students to visualize the relationship of one problem to another in other situations.
- * The promotion of critical thinking in food and nutrition classes is enhanced when the teacher has both a basic knowledge of nutrition and an understanding of the thinking process.
- * The development of critical thinking by nutrition students is influenced by students' interest, intellectual ability, and their personal value judgments.

- * A clarification of the various processes of thinking which can be taught effectively in foods and nutrition classes can assist the teacher in planning class activities which will be meaningful.
- * The development of good thinking habits in foods and nutrition classes is enhanced when the teacher designs questions that ask:
 - for information that is presented in the given situation
 - for the students' examination of similar ideas in other situations
 - students to form generalizations of their own
 - students to examine these ideas as they apply to their present-day life
 - students to illustrate the meaning of their generalizations.
- * The use of well-constructed questions concerning nutrition and foods can promote careful analysis and can develop further understandings.
- * The development of the thinking processes in foods classes is enhanced when the individual differences in the class are known, understood, accepted, and utilized by both the learners and the teacher.
- * The ability to think clearly and constructively is recognized as one of the several competencies needed for the development of homemakers.
- * A problem which appeals to several (instead of to a single one) of the senses, provides higher motivation.
- * Identification of all factors involved in a situation facilitates recognition of the basic problem.
- * Problem-solving situations exist in all subject areas.
- * The evaluation of solutions contributes to the meaningfulness of problem-solving.
- * The development of problem-solving techniques is facilitated when they are applied in many different units of study.
- * Integrated learnings developed from several meaningful problem-solving situations contribute to transfer of application in other situations.

* The development of effective home economics programs is promoted when the home economics teacher:

familiarizes herself with effective methods of
developing the processes of thinking

recognizes the varying intellectual abilities of
her students

provides challenging experiences for all 'intellectual
abilities

guides students in the application of the problem-
solving methods to their own problems

guides students in evaluating their own thinking.

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MEAL MANAGEMENT UNITS OF STUDY

Emma B. Whiteford

In Burton's preface to Education for Effective Thinking¹ including a note addressed to teachers, he pointed out that "knowing about thinking is one thing, being able to think is quite another. Knowledge is necessary as in any human activity, but doing the thing is essential." In readily usable terms, he describes what one does when he has to "stop and think."

First, he runs into something which raises a doubt or perplexity in his mind. He does not know the answer and will have to figure it out.

Second, he makes sure what the difficulty is and notes the conditions surrounding the situation.

Third, he examines the given facts, sets up hypotheses, and searches for more facts both through observation and through similar situations.

Fourth, he looks critically at the facts and their interpretations. This necessitates setting up or using known criteria.

Fifth, he draws conclusions which seem to be supported by his inquiry.

Last, he checks against reality.¹

Burton indicates that "Throughout, he tries to maintain suspended judgment. The division into first, second, third and other phases is arbitrary for descriptive purposes only. Thinking is unitary and all phases go on together."

On the basis of a year's experimentation by selected home economics teachers in Ohio, Hazel H. Price⁴ reported that the meal management approach in the study of food and nutrition was more interesting to both the students and the teacher. In addition, it seemed to the teachers that the meal management approach provided more opportunities for experiencing good management practices. However, methods of teaching should be chosen in relation to the objectives. In this study, the teachers had indicated that they wanted students to:

- (1) develop an interest in nutrition
- (2) recognize the best possible buying practices
- (3) demonstrate some skill in food preparation using desirable working habits and good management practices, and
- (4) achieve high standards in food products.

As a result of a preliminary study of selection and arrangement of equipment, the workshop group of home economics teachers participating in the Ohio Study of Food and Nutrition Teaching formulated desirable arrangements of large and small equipment and of supplies in the food laboratory. Using this information, a score card was developed for evaluating the laboratory and for making needed improvements. The emphasis is placed upon the management principle "Keep everything within easy reach." Later this material was adapted by participants in a workshop in Indiana.⁵ By use of this score card, a teacher or homemaker may evaluate her facilities and find ways of improving the situation to provide for better management of time and energy.

In using the meal management method in teaching foods, one uses an approach similar to that of the homemaker in providing nutritious, attractive meals for her family. Hopefully, she has learned to include certain essentials in each day's meals. First, considering these basic foods, she makes a general plan for the three meals. Next, she sets up specific menus for the meals to be prepared. Then, she finds suitable recipes, which she examines to determine the processes involved and the food needed. Next, she checks the food on hand and does the needed buying. She prepares and serves the meal. From the family's reactions to it, she evaluates each meal and uses the experiences gained in the preparation of other meals.

The food classes go through similar steps in planning, preparing and serving meals. However, there are certain modifications in their applications in the laboratory. The groups of four to six students, called families, share experiences. The family members study food needs, select meal patterns, plan menus based on the chosen meal patterns and follow procedures in preparing, serving and evaluating the meal similar to those of the young homemaker. Meals are prepared and served at regular intervals throughout the foods unit. According to Price's report,⁴ "In detail, the procedure includes the following steps. The class under the teacher's guidance

1. Discusses the foods essential in the day's diet
2. Decides on meal or meals to be emphasized, including essential foods and sets up goals to be achieved in meals to be prepared
3. Chooses a pattern (combination of foods) for the first meal
4. Divides into families; each group of two or three girls makes a menu built on the pattern chosen
5. Evaluates menus and decides on their practicability from the standpoint of cost, variety, suitability and time required for preparation
6. Decides on learnings needed before the meal is prepared and served
7. Studies about foods included in meals planned, observes demonstrations of their preparation and practices cookery processes and techniques involved
8. Makes detailed plans for the meals to be prepared including who is to be responsible for the various tasks, the sequence of jobs, the time required for preparation and service, and the market order

9. Prepares and serves the meals when plans are approved
10. Evaluates the meals served. Discusses standards, decides on emphasis needed for next meals
11. Chooses the next meal pattern involving other foods or more complicated processes
12. Follows steps 4-10 for each succeeding meal.⁴

The outline offers an opportunity to practice the principles of good management in the laboratory. The meal furnishes greater motivation to use time, energy and money to good advantage and demands more application of the principles of management than does the preparation of a single dish. As students plan the meal (step 4) the choice of food must be made in relation to the nutritive value, cost, needs of the individuals to be served, interesting combinations of color, flavor and texture, variety in possible methods in preparation, ability of the cook and available time and equipment.

For the inexperienced worker, the work schedule (step 8) must be worked out, generally in the form of a written plan. The sequence of tasks and the time needed for preparation of each dish must be planned, as well as a division of responsibilities in the event that two or more persons share in the preparation of the meal.

Preparing and serving a meal (step 9) includes the ability to follow the work schedule so that foods are prepared in the necessary sequence and are ready to serve at the desired time. Good management in preparation and serving of food requires that the worker

- use her time and energy wisely
- choose and effectively use equipment
- work quickly, quietly and systematically
- omit unnecessary steps and motions
- keep working surfaces clear
- care for utensils and dishes as used
- conserve fuel and supplies
- avoid waste by preparing correct amounts of food in relation to the number of persons to be served
- by caring satisfactorily for left-over materials

In carrying out these practices, the teacher and students must evaluate the outcomes on terms of the desired objectives (step 10) and the need for further study.

According to Price's report,

In choosing the meal patterns, the experimenting teachers decided to stress in ninth-grade meals the basic essentials in the day's diet: fruit, whole-grained cereals (including quick breads), milk, eggs, vegetables, meat substitutes (such as cheese) and meat extenders. The meal patterns chosen were those suitable for the lighter meals of the day, breakfasts and luncheons or suppers. They seemed simple enough to be prepared by ninth-grade girls.

The sequence of meal patterns chosen for this grade was:

1. Fruit, Toast or Cereal, Beverage
2. Fruit, Eggs, Toast, Beverage
3. Vegetable plate, Quick bread, Milk dessert
4. Creamed soup or vegetable, Sandwich or bread, Fruit dessert or salad
5. Main dish salad, Quick bread, Beverage
6. Main cheese dish, Gelatin salad, Fruit dessert
7. Meat extender, Tossed salad, Gelatin dessert

For the tenth grade the meal patterns were built around various methods of meat preparation, meat being the essential food receiving minor emphasis in the ninth grade.

1. Vegetable plate with egg, Bread, Fruit salad or dessert
2. Meat extender, Bread, Vegetable salad
3. Top-of-stove meat or fish, Starch or green vegetable, Salad or dessert, Bread (Beverage and second Vegetable if desired)
4. Broiled meat, Vegetable, Gelatin salad or dessert, Bread (Beverage and second Vegetable if desired)
5. Less tender cut of meat (pressure cooker or left-over), Vegetable, Salad or dessert, Bread (Beverage and second Vegetable if desired)
6. Oven meal (Meat loaf, Roast, Casserole or Fish), Vegetable, Pudding or frozen dessert, Bread (Beverage, Salad, or second Vegetable, if desired)⁴

Using the patterns for meals in the order as outlined, daily plans were developed. As a pre-test early in the school year, students plan, prepare and serve simple meals. At the end of the unit of study, final practical test meals were prepared by comparable groups. An organized plan for meal management and service provides an invaluable aid to students in developing management skills in their laboratory experiences. A score card for evaluating student meal plans and for food preparation and serving offer guides for improvement; if students participate in the construction of the score card, thinking will surely be required. An example follows.

Score card for judging a meal plan

	1	3	5
<hr/>			
A. MENU	Meal elaborate, cannot be easily prepared in time available	Meal somewhat complicated; could be prepared in time but might rush workers	Meal simple; could easily be prepared in time available
1. Time (Use of)			
<hr/>			
2. Cost	Excessive, e.g., foods out of season, too expensive for school use	Moderate, some unnecessary expense involved	Reasonable, no extra expense involved
<hr/>			
3. Contrasts	Little or no contrast in color, texture, flavor, temperature, shape, or nutrients	Some contrast in either color, texture, flavor, temperature, shape, or nutrients. Meal rather uninteresting	Good contrasts in color, texture, flavor, temperature, shape and nutrients. An interesting meal
<hr/>			
4. Suitability	Menu unsuited to both equipment provided and energy involved in preparation	Menu suitable for equipment or for energy, but not for both	Menu suited both to average equipment and for wise use of energy
<hr/>			
B. WORKING PLAN	Time not given for tasks, or not accurate	Time given for two of the three tasks (preparation, service or clean-up)	Time given for all three tasks (preparation, service and clean-up); schedule seems reasonable
1. Time			
<hr/>			
2. Sequence of tasks	Sequence implied but not given or not suitable	Sequence given for part of work, e.g., for preparation, or for service and/or clean-up	Sequence given for all tasks--seems reasonable
<hr/>			

3. Share of individuals	Share of individuals implied--not detailed	Share of individuals given for some tasks, may not be fair share	Share of individuals given for all tasks. Division of tasks fair
C. MARKET ORDER	Not all foods needed included, quantities not stated or not suitable	Most of foods needed included, quantities may be questioned for service for four (or six)	All foods needed included in reasonable quantities for service for four (or six)
1. Order lists			
2. Cost	Not given or given for part of foods or inaccurate	Cost for meal given fairly accurate but not summarized	Costs given, summarized, seems reasonable

Since many homemaking activities are repeated frequently, time and energy may be saved when these tasks are made a matter of routine. Persons interested in good management practices will strive to develop good habits of carrying on the more routine procedures, so that they may be accomplished with a minimum of time and effort. Home practice in activities may help in achieving goals relating to good management. A cumulative record of foods prepared which reflects the students experience in preparing and evaluating foods at school and at home is a valuable guide in planning for additional experiences.

Word usage

In discussing semantics, Burton defines the term as the study of the meanings of words.¹ However, in the use of spoken or written language, we are increasingly aware of the confusion in communication resulting from the unfortunate choice of words used by the persons involved.

In teaching meal management, the development of a satisfactory functional vocabulary is of prime importance. For example, in food classes, Hazel Price⁴ points out that many products are poor in quality, not only because of the inexperience of the student but because she has little experience upon which to judge her accomplishments in relation to the score card she uses in evaluating her efforts. Consequently, improvement in standards of performance, evaluation and interpretation may be more adequately achieved by: (1) demonstrating the procedures desired with a

resulting good product, and (2) using printed score cards for repeated evaluation of food products, including the comparison of products prepared by individuals and groups.

Price further observes that "Learning how is generally achieved through observing a demonstration of the process. A good demonstration includes an oral explanation of the steps in the process as well as a showing how."⁴ Appropriate terms for the procedures used should be included in the explanatory presentation during the demonstration. At the same time, according to Simpson,⁸ consideration of "why" certain procedures are necessary is pertinent to depth in teaching. Students are more confident in proceeding successfully with the assignment when the "reasons for" as well as the procedures and vocabulary terms with definitions may be reinforced.

In demonstration and laboratory procedures, the relation between equipment used and time and energy needed should be emphasized. If some students do not have suitable equipment at home, they may be helped to recognize that under these conditions more time and energy than is necessary may be used for the process. At the same time they should not be embarrassed or made to feel inferior because of the lack of equipment.

In evaluating the outcome of a demonstration, the products must be examined and described in terms which help students to recognize the desired qualities they are expected to attain. A clear understanding of the meanings of the terms used is pertinent to the functional learning involved in the unit of study. For example, in considering the preparation of muffins, Osee Hughes² illustrates the external and internal appearance of good and poor muffins. In addition, the texture of a well-made muffin is described as "uniform, the grain is not fine and the cell walls are of medium thickness. Associated with peaks or knobs and tunnels in an overmanipulated muffin is a more compact texture." The integration of this information with the evaluation of products of a demonstration and laboratory work will help students in improving their understanding of the desired qualities in muffins.

Identifying Misconceptions

Although food fads and food quackery have existed for many years, today they not only still exist but even appear to grow. In spite of the increased abundance and quality of the American food supply, food faddism has concentrated on undermining the confidence of the people in the nutritional value of readily available foods. According to a recent article, "What are You Doing to Combat Food Fads?" in the April, 1963, issue of What's New in Home Economics⁷, the success of the food faddist has been substantially due to capitalizing upon a number of human frailties. In a large part due to the success of nutrition education in the past few years, there is a general desire for better understanding of the food we eat and ways we may attain the best possible nutrition for individuals and families. Nevertheless, the food faddist takes full advantage of the great emotional value of food by selling his products through the use of hope, fear and superstition. The home economist is qualified to help the consumer by providing basic sound nutrition information related to the

varied diet. In addition, the consumer needs help in understanding the need for basic cleanliness and care in properly handling foods in industry and the home and in developing a sense of confidence in her decisions when marketing for her family.

Frequently, we find homemakers who think that every convenience food is more expensive than the home-prepared equivalent or they are sure that the time saved in the preparation of convenience foods is so great that their use is an important asset to good management. According to Changing Times⁶ analysts in the Department of Agriculture made a study of 158 convenience foods--dehydrated, frozen, pre-mixed, canned. They determined the cost per serving, as well as how long it took to prepare the foods--exclusive of thawing, baking and cooking. This information was compared with the cost and preparation time of home-prepared foods. Examples of the findings follow:

Forty-two of the 158 convenience foods were less expensive than if they had been prepared in the kitchen.

Among items which reflected the greatest savings were frozen orange juice, lima beans; canned orange juice, spaghetti, cherries, chicken chow mein; devil's food cake mix, instant coffee.

The greatest extravagances are fresh, ready-to-serve yeast rolls; frozen chicken and turkey dinners; and pre-cooked rice.

In addition to the types of misconception mentioned above, we find that we sometimes come to apply information in ways which are inaccurate. For example, Hughes, in discussing vegetables and vegetable preparation in Introductory Foods,² defines vegetables as plants or parts of plants used as food. Since the definition is so broad, the term "vegetable" through usage has come to apply to those plants or parts of plants which are served either raw or cooked as a part of the main course or a meal. Although they are not equivalent nutritionally to potatoes or other vegetables which they may displace, sweet corn and rice are cereals which are sometimes used as vegetables in the meal. Because of the abundance of information and misinformation available, it is imperative that the professionally trained food specialist do all in her power to help the consumer in meeting the needs of individuals and families.

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In the following section, one of the editors shares some ideas relative to teaching for development of the ability to think. This material was originally presented as a speech to several groups of teachers working on this emphasis.

DEVELOPING THE ABILITY TO THINK IN HOMEMAKING EDUCATION

Elizabeth J. Simpson

"The purpose which runs through and strengthens all other educational purposes--the common thread of education--is the development of the ability to think. This is the central purpose to which the school must be oriented if it is to accomplish either its traditional tasks or those newly accentuated by recent changes in the world. To say that it is central is not to say that it is the sole purpose or in all circumstances the most important purpose, but that it must be a pervasive concern in the work of the school. Many agencies contribute to achieving education objectives, but this particular objective will not be generally attained unless the school focuses on it. In this context, therefore, the development of every student's rational powers must be recognized as centrally important."¹

Thus has the Educational Policies Commission of the National Education Association stated the central purpose of American education--the development of the ability to think. Does home economics have contributions to make in this important area? I think that all of us would answer with an emphatic, "Yes." But, after we agree that we can and should teach for the development of the ability to think in homemaking education, we then must answer the practical question of "How?" What techniques may we use to achieve this purpose?

First, I think that we must realize that this is an area in which many questions are still unanswered. At the present time, several large research projects are devoted to thinking--how people think and how they may be helped to think in more productive ways. These projects may be expected to eventuate in guides for the classroom teacher who is trying to help her students develop the ability to think more clearly.

However, even though the answers are not all in, we can see direction in many of the things that we already know about how people learn. I shall try to suggest what seems to me to be some practical guides to teaching for the development of the ability to think.

The first and basic ingredient of thinking is perception, which has three major aspects:

- * the physical, in terms of acuity of senses
- * the emotional, in terms of what the person's environment has made him
- * the mental, in terms of previous learnings.²

Accurate, clear, objective perceptions are important in thinking clearly about any matter.

First, the teacher needs to be aware of some of the influences on perception. One important factor affecting the listener's evaluation of the source of a communication is the listener's perception of the trustworthiness and prestige of the communicator.³ One suggestion for us as teachers is to use specialists to help present specialized areas of subject matter.

Second, the teacher needs to be aware that her students' values influence their perceptions. McDonald states that,

"... the attitude-value system influences the individual's interaction with his environment by pre-disposing him to see this environment in given kinds of ways. The attitude-value system acts as a selection device which orients the individual to aspects of the environment that are consistent with his attitude-value system."⁴

Third, the teacher needs an awareness that emotional states influence perceptions. Students may be more receptive, may perceive more positively, when their basic human needs are met. Other factors that influence perceptions include the environment in which the thing being perceived occurs-- and the intelligence of the person who is doing the perceiving.

In addition to the factors already mentioned, perceptions are affected by what we know. We look at a pan of boiling vegetables in one way if we know the principles of vegetable cookery; we are actually more keenly aware of how the vegetables are being prepared than if we have no knowledge in this area.

Communications

In teaching for ability to think clearly and productively, communications are of basic importance. Let's look at some things that we might do in order to communicate more effectively.

First, include vocabulary study as a part of every unit of study. Stop and define or have students look up new terms. Have a place on the blackboard for new terms. Perhaps each student could have a special place in her notebook for new words and phrases. Use the bulletin board to illustrate the meaning of new terms where appropriate.

First, include vocabulary study as a part of every unit of study. Stop and define or have students look up new terms. Have a place on the blackboard for new terms. Perhaps each student could have a special place in her notebook for new words and phrases. Use the bulletin board to illustrate the meaning of new terms where appropriate.

Take time to define value terms, such as pretty, good, bad, desirable, undesirable. Communication is improved when we understand how others are using value terms.

Help students improve the quality of their listening. Explain and demonstrate how to take good notes. Arrange the room in such a way that all students can hear and are not distracted. Use short quizzes for "listening difficulties." Use well-selected illustrative material as an aid in improving the quality of listening. Involve students in class activities, because involvement and participation are positively related to motivation, attentiveness, and better "listening."

According to a one-page analysis of thinking⁵ there are three over-all aspects of thinking: perception, which we have already discussed; semantics, and we have given some thought to this aspect; the third is insights. Mentally, an insight is a flash of understanding of the inner relations of a situation; emotionally, it is for the student a unique expression of himself. There are ways, in addition to those that we have mentioned, in which we may help a student achieve the understanding that is insight.

Let's see how we might do this. Suppose we consider some of the processes of thinking and how they may be taught in homemaking classes. Of course, we do not have time to consider all of these. I shall try to include those to which a teacher just beginning consciously to teach the processes of thinking might give special consideration.

Problem-solving

First, there is the process of identifying problems. This might seem to be a simple thinking process. There are problems all about us. However, as adults we are sometimes too eager to point out the problems and fail to let students identify the problem areas for themselves. We can provide opportunities for pupils to identify problems in such situations as these:

Viewing a film on baby-sitting to help pupils see the problems which can arise in this situation

As part of setting the stage for student-teacher planning, asking students what experiences they have had in a particular area and what problems they have had

Recognizing a need for data is a second process of thinking that follows naturally after a problem is identified. What information, objects, techniques, even feelings are needed in seeking a solution? This is another point at which the teacher serves to stimulate thinking and to guide rather than to take over and provide all the data needed.

A third process of thinking is recalling selectively from past experiences and formal organized learning and making applications to the problem situation.

Hypothesizing tentatively then follows these other processes in sequence. Here an informed guess is made. It is informed because by this time the student has, if properly guided, brought considerable information to bear upon the situation.

Locating pertinent facts and interpreting them in terms of the requirements of the problem follow naturally. Then follows a trial of the solution and drawing of conclusions as to success of the solution and possible ways in which improvements might be made.

So, we have moved through the major steps in the problem-solving method, each of them involving processes of thinking that may be taught consciously, directly, and intentionally. One place in which we often make a mistake in relation to teaching the processes of thinking is in our failure to identify or have the students identify the processes. It is my belief that we should give a name to the processes and should discuss them as processes with the students. For example, we may say, "If we are to learn how to think clearly about a problem, we need to identify and clarify what the problem really is. We need to state it clearly in words."

We may say, "Whenever we wish to solve a problem, we need to think through the kind of information, objects, or techniques needed for its solution."

Thus, we are putting into words the process involved.

Thinking sequentially

Students who have learned to think in an orderly, logical fashion are better equipped to solve the problems of everyday living than those who have not. We may help students learn how to think sequentially when we plan such activities as the following:

- (1) discussing the reasons for the sequence of steps in the problem-solving method as preparation for solving a problem in family living.
- (2) determining with students the sequence in which various tasks should be carried out in preparing for a play school

Perceiving relationships

Another process of thinking is that of perceiving relationships. We may help students develop the ability to see relationships through asking questions about cause and effect. For example, in a unit of study on "Understanding Ourselves" students may be guided to interpret their own actions in light of the basic human needs. Following a role-playing situation in a family living class, students may be asked to explain why a particular person behaved as he did. If a food product turned out poorly the student and teacher might together seek causes; the student

might be guided to see the relationship between failure to apply one of the principles of food preparation and the production of an unsatisfactory product.

When we help students become aware of likenesses between things or situations, we are helping them to perceive relationships. For example, we do this when we help them to understand how a principle may be applied to various situations. We say, in effect, "Here is a situation in your own home (or in the community) that is like the one we have been discussing in class. The conclusion that we reach in our class discussion may be applied in this similar situation outside the classroom."

Drawing inferences

Drawing inferences is a process of thinking in which considerable error is likely to occur. According to Webster's Collegiate Dictionary "infer" means to "derive by reasoning, conclude from facts or premises, to derive as a consequence, conclusion, or probability." The teacher's task is to help students learn how to draw inferences that are justified in terms of the facts or premises.

For example, after a class has viewed a movie dealing with a problem in family living, students might be asked such questions as "What values of the father might infer from his statement about the use of the family's car?" "What kind of family background do you think that the boy had? What are the reasons for these conclusions? Are these reasons sufficient basis for the conclusions that you drew?"

Value aspects of thinking

In considering how we may teach for development of the ability to think, some attention must be given the value aspects of thinking. Home economics teachers may help students with such processes as identifying and clarifying the values they hold; determining the sources of their basic values; understanding the role of values in choice-making; and developing an open-minded attitude toward those who hold different values.⁶

If we are to guide students toward these important objectives, it will be essential to first teach for an understanding of what we mean by values. The simple definitions, "Values are what we prize," is useful. According to a Kentucky educational bulletin, "Values are wants which have been critically analyzed and found worthy of choice."⁷

Case situations are helpful in developing an understanding of what we mean by values and how values influence choices.

Minute dramas may be successfully used in helping students to clarify values and determine possible sources of these. For example, a minute drama such as the following⁸ may be presented:

Situation: Old Mrs. King is seated on her front porch.
Teen-ager Ann and her five-year-old sister
stand on the front steps visiting with her.

Mrs. King: The cookies are lovely Ann. Thank your mother
for me. And I'm glad you told me about your
school exhibit. I'll try to go. I'll look for
your painting.

Ann: I'll look for you there, Mrs. King. ' Susy and
I must be going. Goodbye now.

Mrs. King: Goodbye, girls.

A moment later, Ann is walking down the street holding Susy's hand.

Susy: She liked the cookies.

Ann: Yes, they were the soft kind she likes best.

Susy: But I know what she liked best. Us! She liked
to have us visit her.

Questions to guide discussion following this minute drama might include: What "free" gifts did Ann and Susy give Mrs. King? What did she give them? What values do you think were involved in this situation? What was Susy learning about values? How might Ann have responded to Susy's last statement to clarify the values involved and to help Susy learn what it means to hold certain values? The answer to the last question can be written and handed in for the teacher to gain increased understanding of her pupils' ideas about their values.⁹

Reaching warranted conclusions

Now, we might break down the processes of thinking in various ways, but there are just two more with which we will deal now. One is reaching warranted conclusions. A transfer of learning from the classroom to the home and community is more likely to result if students have been guided to draw warranted conclusions in the form of principles and generalizations. The following questions have proved helpful in helping students determine whether a conclusion is warranted:

1. What are the bases for the conclusion?
Is there a basis in research?
In the opinion of authorities?
2. What are the assumptions that underlie this conclusion?
Are these assumptions sound?

Example: Class has concluded: Treating a child who has
misbehaved in such a way as to help him develop
"inner controls" is preferable to physical punishment.

Assumption: Physical punishment will not help
a child develop inner controls.

3. Is this conclusion applicable to similar situations?
Is it applicable to a number of situations?

The following sequence of questions may be used following viewing of a film, role-playing, or presentation of a case in order to help pupils draw warranted conclusions in the form of principles and generalizations.

1. Questions for which the answers will be found in the situation
2. Questions calling for an examination of similar ideas in other situations
3. Questions that ask the students to draw inferences, to see cause and effect relationships, to express individual opinions or ideas
4. Questions that ask students what research has to say about the matter, what authorities in the field say. (At this point students are stimulated to read on the subject.)
5. Questions that ask students to draw conclusions in the form of principles and generalizations
6. Questions that ask students to illustrate the meaning of the conclusions as they apply to their own lives ¹⁸

In respect to the last statement, there is considerable evidence that people, in general, are not likely to make their own applications of principles and generalizations unless they have been helped to see how they may apply. This last step is a vital one if we are to teach for carry-over into the home situations.

As we said at the outset, there is research being done at the present time in this whole area of thinking. We may expect to find more helpful guides in the literature as time goes on. But, even though we do not have many of the answers that we would like to have, we do have considerable direction for our teaching and experimentation in the classroom as we work toward developing the ability to think in homemaking education. There are great opportunities in our field for encouraging the student to "live the life of dignity which rationality fosters."¹¹

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A Note of Interest

A recent conference held at the University of Illinois may be of interest to readers of the Illinois Teacher. Following is a brief resume of this conference, the theme of which was

A NEW LOOK AT THE VOCATIONAL PURPOSES OF HOME ECONOMICS EDUCATION

The University of Illinois, through the facilities of its Division of Home Economics Education and the Division of University Extension, sponsored this conference which was held from May 6 through May 10, 1963. Objectives of the conference were:

- * To take a new look at the changing roles of women and to explore the implications for the home economics program in the secondary schools
- * To take a new look at 'teen-culture today and the implications for home economics education at the secondary level
- * To re-think the vocational purposes of home economics education at the secondary level
- * To determine possible direction for teacher education in the light of the conference findings.

Major presentations given at the conference were as follows:

The American Woman--Today and Tomorrow: A Symposium

As a Single Woman	Miriam Shelden Dean of Women
As a Wife and Mother	Shirley Clark Instructor in Home Economics
As an Employed Person	Jacob Stern Assistant Professor of Industrial Education
As a Citizen	Marianne Ferber Lecturer in Economics

'Teen Culture Today

An Overview	Don Rapp Assistant Professor of Child Development
The 'Teen-Age Consumer	Kathryn Powell Head, Home Economics Dept., Winthrop College Rock Hill, South Carolina
The High School Dropout	Merle Karnes Director of Special Education Champaign, Illinois, Public Schools

The Vocational Purposes of Home Economics Education

- Viewpoints of State Supervisors Regarding a Wage-Earning
 Emphasis in Home Economics EducationGlenna Blunier
 Graduate Student, Home Economics Education
- Is there a New Vocational Purpose in Home Economics
 Education? Dorothy Lawson
 State Supervisor of Home Economics Education
 Albany, New York
- Commonalities in Vocational Education . . William J. Schill
 Assistant Professor of Industrial Education
- Questions for Consideration Rupert N. Evans
 Associate Dean of Administration
 College of Education

Dinner Speech

- The Challenges to Home Economics Education Today--
 as I See Them M. Ray Karnes
 Chairman
 Dept. of Vocational and Technical Education

Conference Proceedings will be available around the latter part of July.
 They will be titled: A New Look at the Vocational Purposes of Home
 Economics Education--Conference Proceedings

Please place orders for copies of the Proceedings to:

Division of University Extension
 116 Illini Hall
 University of Illinois
 Urbana, Illinois

The cost of \$1.00 should be enclosed in the form of a check made payable
 to the University of Illinois.



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ILLINOIS TEACHER OF HOME ECONOMICS

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UNIVERSITY OF ILLINOIS BULLETIN

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Resources Defined

Paolucci calls resources the tools of management, and suggests that assessment of them is a first step in understanding their role.

Resources are the tools that make end results possible. Awareness of all available resources can increase the possibility of achieving what you desire Increasing your knowledge about resources facilitates management. After we learn to identify our resources, we can better understand their character and how to manage them.¹

So it is in teaching. Identification of "what we have," understanding the characteristics and interrelatedness of our resources, and using them wisely, can help us get "what we want."

Resources for home management have typically been classified as:

- (1) human, or one's own work capacity; and
- (2) non-human, material, or situational resources, i.e., those available outside oneself.

Listing resources in these two categories gives us the following:

"Human"--one's own work capacity

Time
Physical energy
Interest and attitudes
Abilities and skills
Knowledge

"Material" or situational resources

Money
Services
Material goods
Community facilities

What kind of resources are needed for home economics teachers?

This question has to be answered by another question, since, as we have previously stated, resources are means to ends. What are your goals for developing yourself and your program? Checking against the following list may help you recognize for what purposes you may need to look for additional resources, or to use familiar ones in different ways.

Do I have both human and material resources to help me . . .

enrich classroom teaching in all phases of my subject?
 challenge the fast learner?
 give meaning and substance to experiences for the slow learner?
 guide students in their extra-class organizations?
 advise and interest students in various job and career possibilities?
 give students sources of help and information for personal problems?
 interpret my program to the rest of the school and our community?
 grow in knowledge and understanding of my subject matter?
 increase my understanding of ways to make learning effective?
 develop satisfying interests away from the job so I grow as a person?

Human resources

Let us look at the human and the material resources available to teachers. Human resources can be thought of as those belonging to the teacher herself. In addition, however, many other "humans" influence the effectiveness of the teaching situation. The resources of students, fellow teachers, administrators, supervisors, parents, and other community members--all have a part to play. The interrelatedness of resources is an important concept in home management that should also serve us in teaching.

Material resources

Money, a material resource, usually means that furnished in the school budget for the operation of the department. How adequate this is, or seems to be, and how much money the students and teacher have to spend for supplies, may be related to the teacher's ability to foresee needs, to do long-range planning, and to present her needs in a meaningful way. A teacher's interest in a comprehensive program with appropriate resource materials for each aspect of it, will, of course, also influence the demand for and use of money. When money resources of students are limited, the creative teacher finds ways to minimize their expenditures for school work.

Services

Home economics teachers can have many services at their command. Naturally, not all will be present, or present to the same degree, in every situation, but recognition of the possibilities of these services as resources enables the teacher to use them more effectively as means to ends.

Our professional associations, such as the American Home Economics Association, the National Education Association, the American Vocational Association, and the Adult Education Association, provide us services through their official journals, other publications, conventions, conferences and committee work for the profession. What habits have you formed in relation to using these services? For example, do you count on the Journal of Home Economics to stimulate your professional growth as it brings you new facts from research, information about trends influencing home economics, listing of new publications, reviews of new books in the field, and other ideas for working with your subject? Do you use the NEA Journal to help in your understanding of general problems such as guidance, discipline or reading; and to find out what is happening in education in general? Do you secure the publications of its home economics section and use them in your teaching? Do you use the American Vocational Journal to keep abreast of what is happening in vocational education, and Adult Leadership for news in the area of adult education? Or do you ignore your professional journals? You are missing important services if you do.

Attendance at conventions of professional associations is a good way to catch up with new products, new teaching devices and materials, as well as with new ideas presented from the speaker's platform or in group discussion.

Services of professional personnel may come through the work of professional associations, but services are also available through local and state school systems, and from the Home Economics Branch of the Office of Education, U.S. Department of Health, Education, and Welfare. A principal, superintendent, supervisor, curriculum consultant, program specialist, or departmental chairman is a resource person whose services can be valuable to teachers. The greatest good will likely come, however, when some self-help is involved, *i.e.*, if the teacher pin-points areas of need and has questions outlined to discuss with the consultant.

Services of other people in the local school are also of significance to the home economics teacher. Guidance personnel provide facts and help to interpret data about students in addition to what the home economics teacher may know about their backgrounds and families. The amount of service given by a general clerical staff will vary a great deal from school to school. A busy teacher should find out just what is possible and then use these services to the best advantage and the mutual satisfaction of both parties. The same factors should be given considerations when using the services of the custodial staff.

Services possible from teacher's aides are innumerable in a home economics department. At the present time this type of personnel is not generally found as part of school systems, but the idea has real merit and the practice will likely grow. Some teachers may have to learn how to use this new resource constructively so as to free their own time and energy for strictly professional duties which the teacher alone should or can perform. As manager, or as teacher, the delegation of appropriate responsibility, based on clear plans and directions, helps in the effective utilization of resources. Let not home economics teachers be guilty of the refrain heard in a current TV commercial, "Please! I'd rather do it myself!"

So far our discussion of services has dealt primarily with those from people, but services from things are of importance, too. A poorly planned or meagerly equipped department may cause irritations, whereas a well-planned one with appropriate functioning equipment facilitates one's work. Remembering that resources are tools, are means to ends, let us make choices about rooms and furnishings with that in mind.

Students need experience with ideas about homes and families as well as experience with the physical aspects of homemaking. They need a variety of types of places to work, and they need time for study and reflection as well as for doing. Good equipment and well-planned storage areas can cut down substantially on the time and energy devoted to the doing aspects thus releasing time and energy for other aspects of the learning process.

Service from another type of equipment should be included in this inventory of resources. Teachers of all subjects benefit from this type, i.e., the "machines" or the "appliances" which help us teach, which help us do a better job in individual and group instruction. Here we would include the following:

- Chalkboards, strategically located
- Flannel boards and magnet boards
- Tack-boards, peg-boards, and other display devices
- Projectors for individual, small- and large-group viewing
 - for a variety of materials--
 - movies, filmstrips, slides, opaque materials,
 - teacher-made transparencies
- TV receiver for presentations of other teachers, and, with your individual camera, for close-ups of your own demonstrations
- Record players and tape recorders for experience in listening and for recording materials for future analysis and reference
- Machines for programmed instruction

Material goods

Some people might wish to classify much of what has been discussed under "services" under "material goods." Such would be possible, but the author is using the latter term to mean the actual materials of instruction, those which have content which can be used by reading, observing and listening. Because a major part of this article will be devoted to these materials no further delineation about them is made at this time.

Community facilities

Home economics teachers have traditionally looked to students' homes and communities for enriching the opportunities for learning. Field trips and resource visitors have been well established as means which add depth, interest and vitality to our programs. Contacts with real life situations are necessary in addition to an enriched learning environment in the class-

room. The use of community resources and bringing resource persons to the classroom also offer an excellent opportunity to interpret home economics to others.

In addition to thinking of the town in which your school is located, or the nearby city, as a place to find learning opportunities, the teacher may find that the school itself offers people and places to serve as resources. Planned experiences between different departments in the school lead to better understanding of the objectives each department is trying to accomplish.

The reason for asking for contributions of other faculty members to your classes must be clearly explained to them and to the administration. Many faculty, and other school personnel, could contribute new ideas and materials that are of interest and worth to homemaking classes. For example, contributions may be in line with an individual's hobbies or travel experiences but be a distinct enrichment for your classes dealing with use of recreation or national cookery. A fellow staff member who has recently had an experience in buying, building or remodeling a house may be willing to explain some of his problems and decisions to your housing class. School custodians may also have special talents, hobbies or experiences, to share. Here, again, is opportunity for interpreting the home economics program to others and for establishing desirable personal relationships.

Other teachers in the school may also serve as resources because of their special education. They may share materials, or help their students develop presentations for your group if they cannot attend themselves, since, administratively, it may be difficult for teachers to be free when the time for a visit is desirable. Some of the areas of study which might contribute to home economics classes are suggested below:

Industrial arts for furniture construction or refinishing techniques; simple electrical repairs, or understanding household wiring

Art for using color effectively, or judging decorative objects for the home

Physical education for effective posture in relation to good grooming, or planned physical activity in relation to weight control

Science for scientific principles in food preparation or textile study

Speech for the importance of communication in family and personal relationships

Exhibits and bulletin boards arranged by other departments may also be food for thought for home economics students. Encourage students to be observant and to try to see implications for their studies in home economics. Creative teachers and alert students may find resources in unlikely places.

Reading Materials

A picture in an education book shows a student and an adult finding a pamphlet on Latin America in a file drawer. This question is raised: "Is this the social studies teacher or the school librarian?" The answer is that we can't tell. The fact that one cannot be certain illustrates that a good librarian is also a teacher, and a good teacher is also a librarian.

. . . . a teacher's attitude toward the materials that deal with his subject can have a profound effect on his students. Is the textbook the only source of information in the classroom? Or are there files, clippings, magazines, and books of many kinds ready at hand? . . . The teacher who understands that different students need different materials and who sees to it that these materials are easily available is inadvertently a librarian--and also a good teacher.²

A variety of good resources for learning through reading is important. Textbooks are only a beginning. Finding and using reading materials suitable to various abilities is a challenge to teachers. Having text and reference books that fit the interest and reading abilities of students increases the likelihood that they will be used with understanding. Some students will need printed materials that are very simple, while others will profit from reading more challenging sources. Some suggestions about planning for reading materials follow:

- * Make sure your requests for funds for teaching materials include items for supplementary reading materials as well as for expendable supplies or other kinds of illustrative materials
- * Make a point to analyze the areas of content covered by the reading materials on hand, and the new ones to be ordered, so that you do not unwittingly build up subject matter in one phase of the program at the expense of other phases of home economics. Of course, in a multi-teacher department, each teacher may become somewhat of a specialist in the materials she needs, and these may be shared throughout the department.
- * Provide a variety of materials so that different points of view are presented, so that special needs and interests of boys as well as girls at different age levels are met.
- * Provide variety by having magazines, pamphlets, bulletins, and some paper-backs as well as the traditional hard-cover books.
- * Consult the school files to see if reading scores of students in your classes are available. The job of planning reading assignments for classes or individuals is easier if one knows their respective abilities.

- * Diagnose the reading level of materials. Clues may be found in the introduction of a book where mention may be made of the grade level for which a particular book is written. Your students, however, may be different. Read some of the material to see what problems there may be in understanding the concepts introduced, or apply a readability formula to help judge the level of difficulty.

Measuring reading-ease

A simple, yet valid, device to assess the readability of printed materials is the Reading-Ease Calculator, published by Science Research Associates, 259 East Erie St., Chicago 11, Illinois. The price is \$2.50 plus thirty-five cents for postage and handling. This device was developed by the Employee Research Section of General Motors Corporation to help evaluate printed materials distributed among the employees. The Calculator can be used equally well to analyze one's writing in order to develop an easy style or to analyze materials already in print.

Knowing the reading level of students and the reading ease of text and reference materials should help a teacher guide her students to resource materials which will be effective for their understanding. Being able to test the reading ease of a book before deciding on its purchase as a text or reference is one way to help a teacher build a library suited to her students. It must be remembered, however, that word-choice, human interest and style also account for a great deal when assessing the readability of a book.

Two difficulty factors in reading are word length and sentence structure. The Reading-Ease Calculator measures difficulty levels using these two factors. It does not measure interest levels. Only five steps are needed to use the Calculator.

1. Count off the number of sentences in one hundred words
2. Set a dial on the calculator for the number found
3. Count the number of syllables in the one hundred words
4. Find this number on the scale on the Calculator
5. Determine the reading ease by observing the color which appears opposite this number. Four colors are used for the categories of:

Very easy

Easy

Hard

Very hard

The "easy" category is the estimated reading level of average adults in the United States.

It is suggested that one should test about ten per cent of the material one is interested in. An easy way to do this is to take the first one hundred words on every tenth page. If the scores on successive samples are consistent you need not test so frequently. Every fiftieth page would probably suffice. However, if scores are changing, then it would be wise to go back to more frequent testing.

One home economics teacher³ who has used this device to measure the levels of reading difficulty in six food and nutrition books reports that she feels she will be better able to select materials for various grade levels and to meet the needs of individuals within groups.

In her study, ten to thirteen random samples of reading were tested from each book, with additional samples in the special areas of nutrition, table service, and desserts. The level of reading difficulty appeared to be fairly consistent in each book tested, in that the special areas tested were no different in difficulty from the book in general. Findings about the level of reading difficulty of these books, using the aforementioned device, are as follows.

Books examined

- A. A beginning book on cooking for boys. Very easy
- B. A high school book for beginning foods. Easy
- C. A junior high reference on cooking. Easy
- D. A high-school level text in food and nutrition. . Easy to hard
- E. A high-school level text in food and nutrition. . Generally harder
- F. A high-school level text in food and nutrition. . Generally harder

What is classified as "easy" (the reading level of the average United States adult) may not be so for all high school students. We know that many students have a reading level much below their grade placement. Perhaps we need more books that are "easy," but without watered-down content.

Other factors

In addition to level of reading difficulty, two other analyses were made in the study of books listed above. One was the extent to which food and nutrition principles and generalizations were stated, and the levels of these; and the social class level that was portrayed or that could be inferred. Reading-ease is by no means the only criterion for measuring the suitability of a book. Findings about inclusion of principles and generalizations in these six books in the study follow.

- Book A. Too few principles or generalizations to make any evaluation.
- Book B. Simply stated generalizations; many are statements of specific facts. Comprehensiveness in areas of nutrition, management, egg cookery and vegetable cookery seem adequate for a beginning book on foods.
- Book C. Very simple statements, often of definition. Concepts very elementary, generalizations not very comprehensive.

- Book D. Many well-stated generalizations, although some not so well stated. Majority of generalizations at first level, that of description and definition, but some at higher levels. Rather comprehensive in its coverage.
- Book E. All levels of generalizations found. Although the majority are first level, many good ones at second and third levels, too.
- Book F. All levels of generalizations stated, with the great majority at first level, few at other levels. Fairly comprehensive.

After an analysis such as this of the books on her shelves, or those she is considering ordering, a teacher would know in what ways she would need to supplement the study materials when certain objectives were important.

The last examination of the sample of six books in this particular study had to do with the social class portrayed, or that could be inferred. Both text and pictures were examined to see if materials concerning certain factors indicative of practices at lower, middle and upper socio-economic levels were present.

It was hypothesized that the social class level portrayed or that may be inferred is middle class. Examination of the books supported this. Although recognition was given to some lower socio-economic class level needs, this recognition seems very small in relation to that given to middle and upper socio-economic class level needs. Books A and C had little evidence of social class indicators, but these books are not as comprehensive as the others. The investigator felt that Book D indicated less class level than Books B, E, or F. Book D seemed to have avoided items which indicated class level. Topics and practices were treated in a more general way.

It is important that information in textbooks meet the needs of all students using the book as a text. A range of socio-economic class levels is found in most high school classes. In our society there is a great deal of social mobility. Few families are completely stationary or isolated within a single class group. But we do need to be realistic about the practices we teach so that they are appropriate for our students. At the same time, however, teaching some practices typically associated with class levels different from a given one, could help in furthering group acceptance and human relations.

The investigator in this study feels that textbook materials could be improved by having more information to meet the food and nutrition needs in the lower socio-economic groups. When the teacher is aware of the social class bias in a text, and is also aware of the social class levels of her students, she can, of course, plan to supplement text material to include experiences helpful to all groups.

Pictures or no pictures?

Typically the presence, absence, quality and quantity of illustrations

are noted when one is making a selection of books for students. How do illustrations influence the production, promotion, choice and use of books? John Keats criticizes textbooks as beautiful but dumb. Although he is writing primarily about history and English books we might take a look at all school books with his criticism in mind.

Keats feels that books are often lavishly illustrated but are intellectually bland, and that commercial reasons, rather than intellectual considerations, determine the textbook's contents at every point. He states that publishers say that books without color and pictures will not sell, even though illustrations adds substantially to the cost. Keats does allow that pictures in books may have a place sometimes.

Understandably, illustrations help very young children learn to read. At another level, pictures enhance what is read. But as imagination and experience deepen, an illustrated text is less necessary; children define a 'grown-up book' as one 'with no pictures in it.' At the level of maturity many high school seniors reach, illustrations may merely be distracting, if not downright insulting. Yet, many texts for high school seniors are almost as profusely illustrated with photographs and cartoons as those for seventh graders.... Good photographic reproduction requires coated paper, and the whole process costs a tremendous amount of money. When the picture content comprises one-fourth of the volume, the result is an inordinately heavy, inordinately costly book, although the intellectual content may be minimal.⁴

Illustrations in books do not have to crowd out intellectual content, nor do all illustrations have to be pictures as such. Wisely used, a variety of graphic materials can supplement the text material. Moreover, the wise use of illustrations is not the sole responsibility of author and publisher. The teacher using the book in the classroom, as well as the reader, carries some of the responsibility for effective utilization of the graphic material presented.

A psychologist⁵ discussing the problem of how more effective textbooks can be developed, suggests that good illustrations, properly used, help the reader refine his understanding of what is read, improve his retention of materials, and stimulate creative thought. Illustrations provide a basis for nonverbal communication, and may enrich the process just as a gesture or facial expression does for the spoken word.

The spacing and type of illustrations are important in book design. Just as an illustrated lecture demands timing to achieve the most effective interplay of speech and vision, so must the words and "visions" in an illustrated book interact in their effects so that a smooth flow of verbal and nonverbal communication is produced. Illustrations provide additional experiences which confirm and extend the ideas gained from the verbal passages. It is suggested that the reader gets "feedback" from the artistic displays in a book which seems to strength the symbolic responses from reading. Perhaps he says to himself, "Oh, I see what is meant," feels a sense of accomplishment, and is

ready to move on. Alignment of text materials and the related illustrations are closely as possible on a page is, of course, desirable when the art work is expected to reinforce the verbal.

Illustrations can assist with organization in a book by "programming" of the reading material. Main concepts, events, situations can be highlighted in a systematic way. For example, at the beginning of a chapter some kind of a drawing may call attention to the theme, or set the stage, for the main characteristics to be developed in the chapter. Earlier illustrations may be made easier to understand than later, more detailed ones. Some drawings may capitalize on the natural curiosity of people by showing some familiar ideas or objects in slightly new situations, but the reader has to explore the meaning of the pictures with help from the text.

Illustrations can motivate the reader to pick up the book, turn the pages, to explore, and they can develop a feeling of expectancy. A teacher would be wise to try to figure out if "looking at the pictures" is all that some students do with a book; or, if the reverse is true that pictures are virtually ignored. We make efforts to see whether students understand meanings of words; why not find out what meanings they get from illustrations? Perhaps you will also get clues as to the type of students, and the type of subject, for which illustrations are most meaningful so that your future book selections can be made accordingly. Research studies of the way students use illustrations in learning from texts are needed to help textbook makers do the best possible job.

Much of the above discussion suggests that we ought to examine the illustrations in books as teaching materials rather than merely as attractive materials. Questions such as the following can help in evaluating illustrations in a textbook.

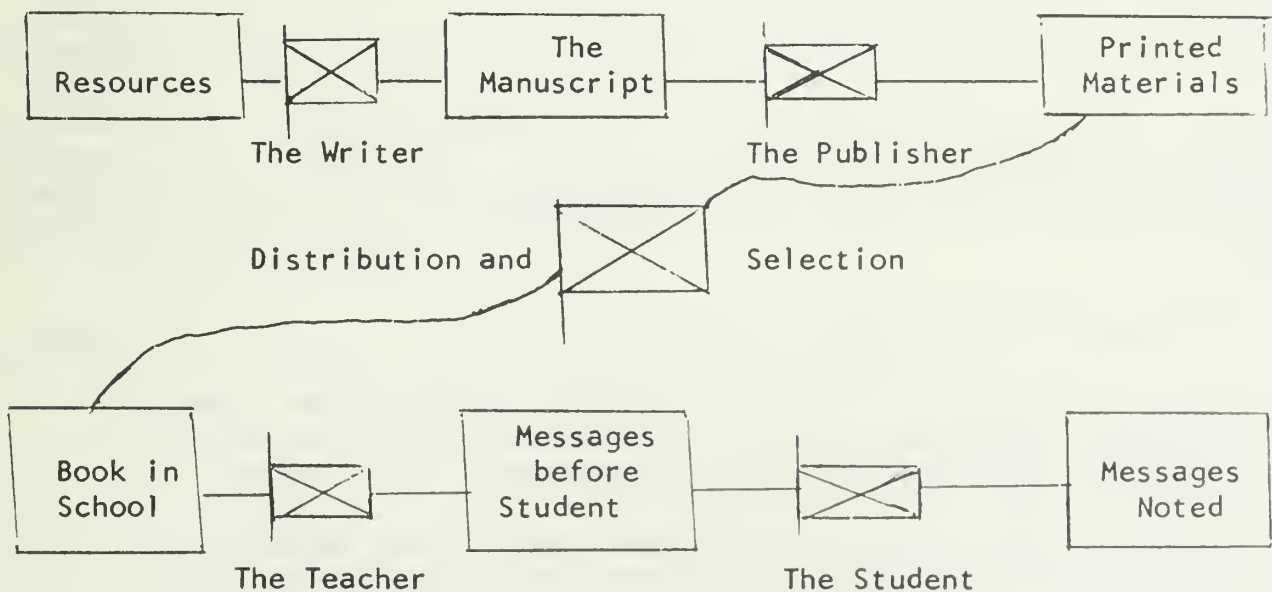
1. In what way do pictures and other graphic material really contribute to the content of the book; or are they primarily "window-dressing" to make the book attractive?
2. Are illustrations located adjacent to the related idea discussed in the text?
3. Are captions interesting, meaningful and stimulating as well as useful?
4. Is the number of illustrations
 - (a) adequate for this subject and your students?
 - (b) so many that text material is skimpy?
 - (c) so few that much supplementary material will be needed?
5. Are the charts, tables or diagrams used appropriately and easy to understand?

6. Are illustrations suitable for students in your classes? Will there be problems in identifying with situations pictured in relation to:
- (a) sex of student? Is the book primarily for girls, or will boys find it satisfactory if also enrolled in your classes?
 - (b) Age of student? Are ages of people and situations shown consistent with age level to which text is addressed and for level at which you wish to use book?
 - (c) Racial or national origin of students? Is only one type of family or person pictured?
 - (d) Socio-economic level? What ideas in housing, home furnishing, table service, recreation and use of leisure time are shown?
 - (e) Rural, urban or suburban orientation? Does one dominate or is more than one type represented?

Books as Textbooks

A dictionary definition of a textbook is "a book containing a presentation of the principles of a subject, used as a basis of instruction." A text can also be thought of as a communication channel. As in all communication systems, this channel operates between a source of information (in this case the store of knowledge possessed by the human race) and a receiver (the student). As in many channels of communication there may be loss of information at certain stages along the way.

The teacher, using textbooks in her class, has a much reduced stock of all the material available in the culture about that particular subject. The following diagram illustrates how certain "gatekeepers" serve to modify knowledge until the end product resides in the student.



"Gatekeepers" as selectors of information in the channel of communication between original sources and the student's learning.⁶

Each gatekeeper probably has certain biases. He does not send on a completely representative sample of all the messages that reach him. Each gatekeeper has personal needs, prejudices, and identifications which predispose him to selecting certain messages.

For most school people "selection" means making a choice among the printed materials available. Since there is infinite variety in textbooks, choices are not easy. We probably do not always know on what bases decisions are actually made. The authors of Text Materials in Modern Education⁷ identify three possible theories about what constitutes a good text.

1. Score-card theory. In this case a good text is considered to be made up of discrete items which can be examined and rated independently of each other. The sum of the ratings is believed to be the measure of the ultimate quality of the text. Although score-cards were developed to give objectivity, they tend to be overmechanized and substitute analysis of parts for understanding of the whole. Typical items in a score card deal with:

Authorship: What are his aims, his point of view? his qualifications for writing this particular book? the experiences on which it is based?

Content: Is it comprehensive enough for the time and groups for which it is to be used? How is it organized? Does it include a recognition of desirable educational aims?

Instructional aids: Are they significant and complete enough? Do they supplement the text material?

Format or mechanical features: Is the typography of a quality to make for ease of reading? Are graphic materials accurate and of significance?

Here we see the book being considered by itself. This theory gives little, if any, consideration to the effect of the text upon the learner.

2. Teacher-in-print theory. A rating scale analysis is not the way to judge a book when operating on this theory. The judgment is in terms of how well the book operates as the teaching implement it is supposed to be. Questions such as the following are suggested for analysis when using this theory:

*How good is the author's teaching program?

*How accurately does he visualize the classroom scene? Does he suggest classroom activities that are workable? How well has he guessed the background of your students?

*Are pictures and other visual aids combined with the text so they are doing a job together, talking to the class as if you were doing it?

*Does the author recognize that one must give students occasional breathing spaces, chances to check up on themselves?

*Are the proposed activities that will take students outside the textbook practical for you and your students?

*Do all parts of the book promote the ends which you and the author are trying to achieve?

Here the human teacher is the handmaid of the text. Initiative and ingenuity are to be encouraged when the author decides they are necessary.

3. A means of communication of the culture. In this theory the text is thought of as a medium of communication, and this communication is to the student. This theory has not been used as widely as the previous two, but ways text materials influence the student need attention. Present knowledge of psychology suggests the following questions to ask in evaluating a text:

*Does the text fit as closely as possible the readiness of the students for whom it is intended, and does it develop new readiness not now present?

*Does the text assist the student in understanding why certain responses are superior for given aims, rather than presenting them as prescriptions?

*Does the text make provisions for sufficient realistic experience, through narration, proposal of supplementary experiences and laboratory work that students will be able to abstract generalizations from reality, i.e., actual experience?

*Does the text formulate explicit and transferable generalizations?

*Does the text provide for problems either by suggesting real activities or by posing problems in symbolic form? Do these problems call for use of generalizations under realistic conditions, and require the student to determine what principle to use as well as to use them?

*Does the text provide an opportunity to use concepts from many fields of study in examining the same problems?

*Does the text help the learner recognize all the important outcomes of his work? Does it provide him with means of evaluating his progress along these lines?

Here the success or failure of the text is determined by what students do or fail to do, what students know or fail to know.

A comprehensive theory about what is a good text needs to be developed and tested. The absence of such a theory handicaps the intelligent selection of texts, because it makes it impossible to educate people to select books well. Although textbooks are rather universal in schools, few teacher educators do as much as they might in helping students learn how to select and use them. Since criteria are not clear, instructors and students may

fumble along "as best they can." This lack of a tested theory probably perpetuates conditions such as the following.

*The role of the bandwagon is perpetuated. Books are selected because many other people have chosen them. If one is compelled to make a choice and feels incompetent in doing so, he is less likely to feel insecure if he knows many others have made the same choice.

*Political decisions are made about the selection of books since no exact criteria are available, nor can experts be prepared to make these selections. Many diverse procedures result.

*Books are "sold" rather than selected. If a tested theory could be used by experts in each school system, the needs of the local school, problems of the local culture, ability of local children and teachers, and similar items could be brought to bear on the problem of selecting books. Determination of what is appropriate could be done as carefully as the determination of appropriate fuel or light.

The textbook in use

Teachers use texts in different ways, and people have various opinions about how texts ought to be used. One way to analyze this problem is shown in the chart below. Three areas of planning for classroom teaching are listed,

Areas of planning	Determining forces at each level		
	Level III	Level II	Level I
Concept to be taught	Text or workbook	Text and course of study	Design of curriculum in subject
Experiences, facts, activities, materials	Text, workbook, and teacher	Text, teacher, students	Teacher, students, and resources of community
Timing and time schedules	Text, workbook, teachers, and school program	Teacher and school program	Teacher, students, school program

Levels of teacher responsibility in three types of instructional planning. (Modified from a chart by V. E. Herrick.)⁸

and three different levels of teacher responsibility are suggested. Level III places least responsibility on the teacher, whereas Level I gives the greatest initiative and control to the teacher.

The text as master

"Following the text" grew out of the tradition of the classical schools taught by scholars. When common schools became more prevalent many an unprepared teacher had to follow the text out of sheer ignorance. When the text is used as master, the decision as to what to teach is that of the text producer.

....If he is operating at Level III (the teacher) is concerned about the interests, questions, and problems of children only incidentally as they can be brought into the discussion of the textbook materials. The teacher is interested primarily in the speed with which children can pass through the material and the degree to which they can understand it. His evaluations are usually in terms of the facts covered by the text and seldom in terms of the concept to be understood, its relationships to other important ideas, and their import for the problems these children face in their living. The next steps in the curriculum are determined by the next page, next chapter, or some such subdivision of the content to be covered.⁹

It is suggested that the goal of textbook publishers is to make Level III with next-to-no responsibility placed on the teacher for selection, organization or planning activities, as ideal as possible. The rationale for this is that publishers may be more realistic than professors in acknowledging the kind of teachers manning the bulk of the classrooms. Professors are apt to see the more ambitious teachers, whereas publishers' salesmen get far closer to the grass roots. They may find many teachers who are inadequate in respect to Level I and Level II responsibilities, so they focus their efforts on supplying tools for Level III teaching. If teachers could be more highly selected, greater demands could be put on them for adaptive planning.

Once the text is selected, the publishers' theory is that further adaptation cannot be other than detrimental. Publishers' points of view about textbooks in use are illustrated by the following statements:

...the really best way to judge a promising textbook is to try it out with your class....You don't really try out a book unless you use it the way the author intended it to be used....When you buy a new washing machine, the first thing you do before using it is to read carefully the manual of directions that come with it. You want to know how the engineer who built it expects it to be used for best results. Furthermore, you wouldn't think of complaining to the company about the way it works if you hadn't operated it strictly in accordance with those directions. Certainly you wouldn't try to wash dishes in a machine made for washing only clothes and then conclude that the machine was no good because it smashed all your dishes.

Yet that is almost precisely the way many a teacher has treated the textbook. She's used it as a reference book, as a source of problem material, she's skipped around from one place to

another, she's even told her children not to read the explanations of the text ('I don't teach it that way'), and then she has complained that the book is not satisfactory.¹⁰

Another viewpoint, a bit less extreme, follows:

The modern textbook is more and more thought of as an 'assistant teacher in print.' .../The author sets/ up as possible the aims which his teaching is trying to accomplish.

.../He/ does this, not on the spur of the moment, nor in a catch-as-catch-can impromptu way, but thoughtfully and deliberately with time to check and recheck, test, revise, and actually try out his material.

...He assumes that /classroom teachers/ will cooperate with this teacher in print, using all their teaching ingenuity to make it work for them and for their pupils.

This calls for no sacrifice of responsibility on the part of the teacher. With all they have to do, there is no reason for them to plan the organization of the course in detail. The author of the textbook can do that for them. There is no need for them to think up all the precise instructional language...nor should they have to rely entirely on their own resources for planning the class activities....The author of the textbook can do these better than any but the ablest teachers can.

The author, however, can never fully...provide for individual differences /nor capitalize/ on opportunities in a particular locality. He can only set the stage, assuming that...the teacher will be the director...and will use his script sympathetically....¹¹

The extreme point of view about textbooks as masters would have a teacher-proof text, based on the assumption that deviations from it are erratic rather than sound adaptations. Here it is believed that in the long run, changes weaken the teaching rather than benefit it. But deviations are inevitable. The textbook maker cannot possibly anticipate all the contingencies of the classroom. As soon as the real business of teaching begins, observing students perform or reason and helping them correct their errors, the plan of the "master teacher" loses most of its power.

The following seem key points for consideration if one were selecting textbooks for Level III teaching:

- * "The quality of teaching depends on the quality of the master plan, and the use of text as master is never justified unless the master plan is made with great care and acumen.
- * "Even where text organization is followed, there will be need for adaptation by the teacher because all contingencies cannot be anticipated. It is important that adaptation be possible and that conditions favor sound adaptation.

- * "the superior teacher will probably be able to adapt the basic plan, to the net benefit of the group. If a plan is made rigid in order to prevent poor teachers from deviating, there may be a detrimental suppression of the superior teacher's talents."¹²

How do teachers use texts? The publishers say they do not follow the master plan sufficiently to benefit from it. Insofar as the master plan involves suggestions for adaptation, this may be true. Investigations seem to show that a significant number of classroom teachers' follow books with utter fidelity, neither rearranging material or modifying it. When workbooks are used teachers may relax their efforts, depending upon them to such a degree that their own personality is almost entirely removed from the teaching-learning situation. Dishing out so many pages for an assignment is far more common than setting up goals which make the assignment a reasonable task for the student.

When a teacher uses texts in a certain way it quite likely expresses beliefs she holds about the proper use of the text. Four sources for these beliefs may be the way texts were used when she was the student, the professional education courses she studied, in-service education, and the suggestions provided by the textbook industry. It would seem that teacher educators and the industry need to get together to help teachers make the best use of books.

Use of texts in adaptive planning

When the text is not used as the master plan, the teacher must do the organization. Preorganization may establish a mental set against reorganization. If some plan or pattern is at hand, it is a temptation to consider it good enough to get by. One argument for casting away texts is that it forces teachers to think. However, rather than refusing to have temptation around, it might be better to have a sense of purpose which permits one to accept the temptation or reject it as circumstances warrant.

There are times when using the text as a base makes good sense. Beginning teachers would seldom have the time to organize all their courses and units at one time, and to do the job well. Many teachers have to choose between responsibilities so that having some preorganization in a text to fall back on may free time for some other important duty. Conditions may often be such that it would be wise for the teacher to "follow the text," but in such an event, "theirs is to reason why," rather than to follow the author with eyes closed.

The teacher who breaks up preorganization must supply new continuity, and the teacher who selects from unorganized materials must make the continuity. Confidence is needed to do adaptive planning. If a teacher is following a plan more or less blindly and comes to a section that is hard to teach, she feels inept to modify it. However, if teachers have been brought together to discuss classroom planning and the handling of instructional materials, a different situation may result. When a person has shared in making a plan he has a sense of its rationale, and a sense of security in tinkering with it. If we rely on experts too long, we become impotent when

we have to fend for ourselves. Any supervision or group planning that takes teachers into the role of curriculum makers sets up readiness for the indispensable adaptation.

Kinds of materials for Level II teaching

For the Level II teacher, the important concern is to develop a course within a carefully planned local curriculum. Selection of text materials is to fit a topic or theme, and very often the demands of a single semester will call for materials no single book contains.

Within the pattern of local adaptation the text may take many roles. These roles are determined by the objectives of the curriculum area involved.

- *The text can be used solely as a source of written explanations. several texts are provided, each of which presents the same event or process from a slightly different point of view. Students are encouraged to read one or more of the books.

- *The text may be used as a source of study material where the material is chosen on the basis of some central plan.

- *The text may propose a definite plan for a given unit in that suggestions for learning experiences are woven so pointedly into the text that the class which does not follow them has inadequate material to keep it busy. The text is pushing the teacher to take greater responsibility for enriching the course with local materials. The teacher must understand the material at a level going beyond the words of the text.

In this last instance the text may give impetus to meaningful, adaptive teaching which the teacher might not introduce voluntarily. Although the text, in a sense, again takes over mastery, it is with less step-by-step dictation of classroom method than at Level III. Educators are likely to look with favor on this kind of text more so than publishers. When the text nags or bullies the teacher into doing a more responsible job, a great number of teachers may prefer to find reasons for not purchasing that text. If sales suffer because a text is too hard for teachers to keep up with, publishers are not likely to continue publishing the book.

The problems of Level II are really not too different from those at Level III, if the Level III teacher tries to respond to individual differences. The Level II teacher starts with a plan of his own and fits the text within it; the Level III teacher starts with the text and departs where its plans leave off. Both adapt in many of the same ways, but the Level II teacher does so more extensively. Specially suited text materials will help the Level II teacher, but conventional materials need not handicap such a program.

Kinds of materials for Level I teaching

The teacher at this level is concerned with her students' ability to plan and to select their own materials for learning. This involves ability

to use library resources, to read conflicting sources and arrive at understanding, and to read unreliable sources and judge them appropriately. Materials employed for a program of this type are usually called resource materials, which name suggests their use, rather than texts.

A variety of printed resource materials are more truly "assistant teachers in print" than the preorganized text. The teacher, the local curriculum committee, and the classroom planning group retain control of the destinies of these unassembled materials; they are not the master. The "assistant teacher," according to this concept would be an aid that implements the plans made locally. The passages already quoted about the publishers' viewpoint suggest that teachers are extremely burdened, and that the way to relieve their burden is to take over the planning and organizing. This leaves the teacher with the responsibility for adaptation of details: explanation of troublesome points, seeking local illustrations, and assisting the slow or fast learner for whom the text is mispaced. A contrary view is that, of all aspects, planning is the one which should remain in the hands of those who are at grips with the learning--the local teacher. It is with the subordinate aspects of instruction where printed materials should lend a hand.

The above does not imply that a teacher could not or should not obtain suggestions about organization from printed sources. Whether these be textbook outlines or recommendations from professional committees, such proposals will surely make the teacher a better planner than if she worked completely alone.

Finding appropriate resource materials, and using them successfully is a problem. The teaching function includes many processes, but many resource materials are confined primarily to exposition, i.e., explaining, giving information, or to demonstrating how a certain action can be taken. Usually an asset of a textbook is that it has been prepared in part by experienced educators with classroom experience. Other materials are likely to be the responsibility of a writer whose main professional interest was not the education of young people. In fact, many reference materials seem to have been prepared with an eye to scholarship rather than to easy communication. The criteria that a journalist or a scholar applies to his teaching may not be the criteria of a teacher. The classroom teacher must help students make use of unassembled resource materials; she cannot merely assign or distribute them.

Earlier mention was made of the "gatekeepers" in the channel of communication which may cut out certain ideas in the development and use of a text, or who may allow certain ideas to pass through because of a given bias. This operation of a possible bias is even more likely when using unassembled materials than when selecting a text. These other materials come from heterogeneous sources, and any given pamphlet receives far less public analysis than a given text.

The probability that unassembled resource materials may be more subject to distortion by bias than textbooks can be an asset rather than a detriment. This, of course, puts responsibility on the teacher for assembling materials of differing viewpoints and leading students to be critical readers. A text, too, can be used as a source of material to which students can react and on which they can practice criticism. But textbooks are traditionally

regarded as infallible authorities. Previous issues of the Illinois Teacher have emphasize the importance of teaching so that students learn to think. The way a teacher uses printed materials, textbooks or other materials, and the attitudes she inspires in her students about them, can either nullify or enhance her efforts in this regard.

Herblock, the noted cartoonist and winner of Pulitzer Prizes, evidently felt the positive influence of a teacher in this direction. This year he was a winner of the Golden Key Award presented at the annual convention of the American Association of School Administrators to a citizen who has contributed significantly to the national welfare, and to a teacher of his choice who has influenced his career. His choice was his high school English and journalism teacher, who, Herblock says,

...taught me right from the start that everything that appears in print 'ain't necessarily so...' and she taught us to make the effort, not only as journalists, but as readers and citizens, to try and find out what really is so.¹³

In addition to factors of bias which the teacher will wish to examine as she looks for resource materials, these questions may be asked:

- *Does this pamphlet or piece of resource material stimulate only reading and remembering, or does it pose questions to lead the student to test his ability to apply what has been learned? If there are no questions provided, the student may assume he has grasped what he has not. If questions call for only repetition, the teacher will need to supply more provocative ones.
- *In what way does this piece of material provide motivation? Help arouse purpose? Attractiveness of such a quality to cause the student to pick it up is almost universally present. Some attempt to gain readers through human interest is common. But a casual interest is not the same as arousing serious purpose. Aims arise when people see things to do which will satisfy needs; they may arise out of local events and opportunities. Aims are translated into purpose by a process of planning. If planning has been done by a preorganized text, the values accruing from the planning process will not be the students'. But various printed materials can help set the stage for the process, get the class warmed up so that they care about an area of study.
- *How useful will this piece of material be for aiding weaker students, or for enriching the work of more able students? Personalized individual attention on the part of the teacher is not always possible, desirable as it may be at times. The right kind of "assistant teachers-in-print" can be of valuable service here.

Finding and using appropriate reading materials include so very many factors. The various concepts teachers and publishers may have about the role of textbooks have been discussed. In the last analysis, however, the

way the student views and uses the text may nullify all the best efforts of both teachers and publishers. If the student skips over charts or tables as mere decorations, fails to utilize the questions provided or the suggested experiences, we might ask ourselves if it is because of laziness and bad habits, or is it because of the student's concept of the text.

Perhaps a new interpretation of the text for both students and teachers would alter wasteful performance. All teachers should be concerned about the kind of approach to reading materials (including textbooks) which will encourage serious and appropriate use of printed information all of one's life.

To use a textbook or not?

A summary of the values and limitations of using a textbook can be presented as follows:

<u>Values</u>	<u>Limitations</u>
A text is an organizing and unifying influence	Easy seduction of a teacher into a sequence of ideas which is another's choosing
Saves time for the teacher	Can stifle teacher initiative, restrict creativity and individuality
Provides common meeting ground for students	Not all students respond equally well to same material
	Single point of view expressed. Intellectual enrichment may be meager.

To overcome the above limitations:

*Use multi-texts selected for their differences in viewpoints and in reading difficulty.

*Enrich with library readings. The text provides extensity; supplementary readings provide intensity.

*Do not necessarily pursue text sequentially from beginning to end. Students may not be ready for pre-determined sequence, the author's order is not necessarily that of the teacher, and not all the ideas in the book may be relevant to the curriculum design.

To summarize in the words of Inlow, "The text should be an organizing influence, but not the only one; it should stimulate but not be the only stimulus; it should contribute to learning without being the exclusive way of learning."¹⁴

Books for the classroom, as has been implied, are more than the text-book. The use of texts and a variety of other reading material has been suggested. Teachers today need to be less a purveyor of information and more a stimulator and guide. Students need to be provided with reading materials which will

- *provide vivid, vicarious experiences, whetting the appetite for learning,
- *enable each learner to acquire essential skills and knowledge as rapidly as his inclinations permit,
- *provide sufficient differentiation in approaches to learning to allow each child to acquire basic understandings, and
- *encourage habits of independent inquiry.

A spokesman for the American Book Publishers Council¹⁵ suggests that in the future we may see fewer textbooks as such and more trade books in the school rooms--books suited to a variety of audiences. Teachers need to become familiar with non-textbook sources in their fields. If we want our students to "learn more than they are taught" we need to provide many resources for learning.

Reading materials are important for learning and should not be minimized as newer educational media come to the forefront. In fact, a facetious article in Harper's refers to the book as the ultimate teaching machine.¹⁶ The author suggests that the device, BOOK (Built-in Orderly Organized Knowledge) with no wires or electricity needed, will go far.

Anyone can use BOOK; it fits in the hand very comfortably and can be used anywhere, even in a reclining position. No buttons need to be pressed to move from one page to the other, to open or close BOOK, or to start it working. It is ready for instant use. Once purchased, BOOK requires no further cost since the motive power is supplied by the brain of the user.

Books for self-teaching

Before leaving this section on reading materials perhaps we should take a brief look at a type of book different from anything previously mentioned. This is the "scrambled" book.

A book can be thought of as a teaching machine just as much as a mechanical device if we think of them both as devices for holding "programs." According to Cram¹⁷ all so-called teaching machines have three characteristics in common:

1. They present information and require frequent responses.
2. They provide immediate feedback to the student, informing him whether his response is appropriate or not.
3. They allow the student to work individually and to adjust his own rate of progress to his needs and capability.

When reading, or studying from, a scrambled book one finds some information presented (usually less than a page), and some questions raised so the reader can make a response to indicate whether or not he understands the information. The response made directs the reader to the next page of the program he is supposed to read. The new page will either correct misconceptions, or present new information with appropriate questions about it.

In a scrambled book the pages are numbered consecutively, but they are not designed to be read that way. In fact they won't make sense if they are. Long-established habits of turning consecutive pages may need to be modified as this type of book is used for the first time. One does not browse or skim through a scrambled book as one might a traditional one. A reason for scrambling the content is to prevent anticipation about where the correct answer page may be found, and to compel attention as one studies.

Scrambled books are sometimes called "tutor texts." Books can also be organized for self-teaching in other ways than by scrambling. The basic idea is that the device (book or machine) allows for self-teaching rather than the teacher having to direct so much of the learning process. If some 90 percent of a teacher's time is taken up with giving information and testing for its acquisition, how marvelous it would be if machines, or self-teaching books, could take over some of that function, freeing the teacher for other kinds of teaching operations.

One might argue that all books "give information," that this is not unique to programmed books. However, the process of feedback, informing the student as to whether or not his responses are appropriate, a characteristic of programmed materials, is a critical difference between them and standard textbooks.

The quality of the "program," the way the content is organized step by step, and the kind of questions raised are the significant factors in any type of self-teaching machine or book. The device itself is only the aid to get the program before the learner.

As yet, home economists do not have published programmed materials from which to make a selection for their subject. Individual teachers, however, are experimenting with self-teaching devices for a variety of purposes. These are particularly useful in laboratory work where the need for instruction in a given technique is quite varied, and where progress in learning is likely to be at very different rates.

Will programmed books or teaching machines ever take the place of the teacher, or supersede other educational media? This is quite doubtful. Each kind of educational medium has a role to play in the learning process. We should not use any one to the exclusion of others, or keep adding on new ones without evaluating how each can fulfill a purpose for that particular situation. Personal interaction between teacher and student is also of utmost importance in the teaching-learning situation. Programmed instruction will likely find a place in home economics classes, but programs cannot capture the subtleties and dynamics of a classroom situation to which a teacher reacts daily.

Ramsey uses the analogy of an orchestra conductor to describe the teacher's role in relation to programmed instruction and other media as he answers the question: Can programmed textbooks be used in a multi-media approach to learning?

Whether programmed instruction becomes the percussion, brass, or delicate string section in this new instructional symphony remains to be seen. As always, though, to obtain seasoned and enduring music, the teacher-conductor must know well all the instruments available in his orchestra--their characteristics, values, and limitations--and know when, why, and in what proportion to lead and cue in his media.¹⁸

REFERENCES CITED

1. Beatrice Paolucci and Carol B. O'Brien, "Resources: The Tools of Management," Forecast. March 1960, p. 50.
2. J. D. Grambs, W. J. Iverson and F. K. Patterson, Modern Methods in Secondary Education. New York: Henry Holt and Co., 1958, p. 389.
3. Mary Jane Ford, An Analysis and Evaluation of High School Textbooks in Food and Nutrition. Unpublished report, Home Economic Education, University of Illinois, 1963.
4. John Keats, "Beautiful But Dumb," Country Beautiful, Vol. 2, No. 1, September 1962,
5. Karl U. Smith, "The Scientific Principles of Textbook Design and Illustrations," Audio-Visual Communication Review, Vol. 8, No. 1, Winter 1960, pp. 27-49.
6. L. J. Cronbach (ed). Text Materials in Modern Education. Urbana: University of Illinois, 1955, p. 94.
7. Ibid., pp. 177-181.
8. Ibid., p. 190.
9. V. E. Herrick, "The Concept of Curriculum Design," in V.E. Herrick and R. W. Tyler (eds.) Toward Improved Curriculum Theory. Supplementary Educational Monographs, No. 71. Chicago: University of Chicago Press, 1950, p. 48.
10. Textbooks in Education. New York: The American Textbook Publishers Institute, 1949, pp. 91-92.
11. Ibid., pp. 5-7.
12. Cronbach, op. cit., p. 197.
13. "A Good Loud Holler," NEA Journal, Vol. 52, No. 3, March 1963, pp. 36-37.
14. Gail M. Inlow, Maturity in High School Teaching. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1963, p. 161.
15. James Cass (ed.), Books in the Schools. New York: American Book Publishers Council, Inc., 1961.
16. R. J. Heathorn. "The Ultimate Teaching Machine," Harper's, Vol. 226, No. 1355, April 1963, p. 52.
17. David Cram, Explaining "Teaching Machines" and Programming. San Francisco: Fearon Publishers, 1961.
18. C. P. Ramsey, "Inside Opinion," Programmed Instruction, Vol. 2, No. 5, May 1963, p. 2.

Suggested Books and Other Reading Materials

The author has attempted to make an inventory of the most recent high school books in various fields of home economics. When dates seem old for some, it is because few recent books of that type could be found. Several "old friends" are now out in new editions.

The first section of books listed are books in home economics which we call "general." Each cuts across several areas of home economics with differing emphases and different amounts on the various aspects of the subject matter. Some are addressed to the younger adolescent, presumably grades 7, 8, and 9; some to the older adolescent.

Definite grade placement for a given book is not practical. The general maturity and sophistication of students differ from time to time and from school to school. Also the readiness of students for a given book will depend upon their native intellectual capacities and their previous instruction in home economics.

The use of too many "general" books throughout successive years in a school program of home economics could mean that little depth is achieved. These books can provide a frame of reference, but they need supplementing. When successive years of home economics are taught in a given school it is desirable that teachers use variety in their text and references so that students sense new challenges from their reading materials. It can be boring to have the same text used for assignments for the same subject every year a student is in the department. Of course, the same book might be used in a subsequent year, but for a different aspect of study from its former use. Or it may be desirable to use some of the "easier" books for special readings for slower, but older, students. Although it is convenient to label a book "the 9th-grade book" (or whatever level), in the long run, it may not be practical when our aim is to use the best reading material possible for a given student in any given situation.

General home economics textbooks

At the risk of violating the statement made above about grade placement, indications are given as to the level where each of the books mentioned might be used. Pushing a book a year lower or higher than the suggested grade is usually quite reasonable in some situations, depending on the factors of readiness mentioned previously.

Barclay, Marion S. and Champion, Frances. Teen Guide to Homemaking. New York: McGraw-Hill Book Company, 1961. (Grades 7, 8, and 9)

Clayton, Nanalee, Young Living. Peoria: Charles A. Bennett Company, Inc., 1963. (Grades 7 and 8)

Craig, Hazel Thompson. Thresholds to Adult Living. Peoria: Charles A. Bennett Company, Inc., 1962. (For late teens)

Fleck, Henrietta, Fernandez, Louise, and Munves, Elizabeth. Exploring Home and Family Living. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1959. (Grades 7 and 8)

Greer, Carlotta C. and Gibbs, Ellen P. Your Home and You. Boston: Allyn and Bacon, Inc., 1960. (Grade 9)

Hatcher, Hazel and Andrews, Mildred. Adventuring in Home Living, Book I. Boston: D.C. Heath and Company, 1959. (Junior High)

Hatcher, Hazel and Andrews, Mildred. Adventuring in Home Living, Book II. Boston: D.C. Heath and Company, 1959. (Early Senior High)

Laitem, Helen and Miller, Frances. Experiences in Homemaking. Boston: Ginn and Company, 1961. (Grade 9)

Lewis, Dora S., Banks, Marie, Banks, Anna K., and Columbia, Adele G. Tomorrow's Homemaker. New York: The Macmillan Company, 1960. (Grades 8 or 9)

McDermott, Irene E. and Nicholas, Florence W. Homemaking for Teen-Agers, Book I. Peoria: Charles A. Bennett Company, Inc., 1960. (Junior High)

McDermott, Irene E. and Nicholas, Florence W. Homemaking for Teen-Agers, Book II. Peoria: Charles A. Bennett Company, Inc., 1962. (Senior High)

Rhodes, Kathleen and Samples, Merna A. Your Life in the Family. Philadelphia: J. B. Lippincott Company, 1959. (Senior High)

Wallace, Inez and McCullar, Bernice. Building Your Life. Philadelphia: J. B. Lippincott and Company, 1960. (Grades 8 or 9)

In the following sections books are classified by the subject areas in home economics. What one teacher may consider a text, another may use mainly for reference. Books which are not designed primarily for high school students but which are useful for the enrichment of the teacher and for students working on special assignments are starred*. An effort has been made to suggest some of this type in each area, as well as to incorporate some of the so-called "trade" books.

Many teachers probably have some pet reference books about which they may say, "I'd be lost if that book gets away." Teachers get in the habit of having a reliable source in which to "look it up." Some of these books may be one's college textbooks or other references in advanced studies. Let's make sure our references are comprehensive and up to date and can serve our students as well as ourselves. Students, too, should develop habits of "looking it up."

Child Development

- * Breckenridge, M. E. and Murphy, M. N. Growth and Development of the Young Child. Philadelphia: W. B. Saunders Company, 1963.
- * Burnett, Dorothy K. Your Pre-School Child. New York: Holt, Rinehart and Winston, Inc., 1961.
- Hurlock, Elizabeth. Child Growth and Development. New York: McGraw-Hill Book Company, 1956.
- * Geri, Frank H. Illustrated Games and Rhythms for Children. Englewood Cliffs, New Jersey: Prentice-Hall, 1955.
- * Martin, W. E. and Stendler, C. B. Child Behavior and Development. Harcourt Brace, 1959.
- * Read, Katherine. The Nursery School, Philadelphia: W. B. Saunders, Company, 1960.
- Shuey, R. M., Woods, E. L. and Young, E. M. Learning About Children. Philadelphia: J. B. Lippincott Company, 1958.
- Smart, Mollie S. Living and Learning With Children. Boston: Houghton Mifflin Company, 1961.
- * Spock, Benjamin. The Common Sense Book of Baby and Child Care. New York: Duell, Sloan and Pearce, 1957.

Clothing--General books

These books cut across several topics in the field of clothing and textiles. Books treating specialized subjects in various areas will be listed separately.

- Carson, Bryta. How You Look and Dress. New York: McGraw-Hill Book Company, 1959.
- Lewis, Dora S., Bowers, M. G., and Kettuneen, M. Clothing Construction and Wardrobe Planning. New York: Macmillan, 1960.
- Oerke, Bess. Dress. Peoria: Charles A. Bennett Company, Inc., 1960.
- Pollard, L. Belle. Experiences With Clothing. Boston: Ginn and Company, 1961.
- Sturm, Mary M. and Greiser, Edwina H. Guide to Modern Clothing. New York: McGraw-Hill Book Company, 1962.
- * Tate, Mildred T. Family Clothing. New York: John Wiley & Sons, Inc., 1961.

Todd, Elizabeth. Clothes for Teens. Boston: D. C. Heath and Company, 1963.

Clothing--Textiles

- * American Home Economics Association, Textile Handbook. Washington, D. C., The Association, 1961.

Denny, Grace. Fabrics. Philadelphia: J. B. Lippincott Company, 8th edition, 1962.

- * Hollen, Norma and Saddler, Jane. Textiles. New York: The Macmillan Company, 1955. (Watch for 1963 revision)

Rathbone, Lucy, et al., Fashions and Fabrics. Boston: Houghton Mifflin Company, 1962.

- * Stout, Evelyn. Introduction to Textiles. New York: John Wiley & Sons, Inc., 1960.

Clothing--Selection

Many general books devoted considerable space to this topic, but here are two specialized books.

- * Chambers, Helen and Moulton, Verna. Clothing Selection. Philadelphia: J. B. Lippincott Company, 1961.

- * McJimsey, Harriet T. Art in Clothing Selection. New York: Harper & Row Publishers, 1963.

Clothing--Construction

In addition to some attention to this topic in the general clothing books, the construction manuals and books written by the various pattern companies, the following books are devoted to construction and renovation methods.

- * Bane, Allyne. Tailoring. New York: McGraw-Hill Book Company, 1958.

Bishop, Edna B., and Arch, Marjorie S. The Bishop Method of Clothing Construction. Philadelphia: J. B. Lippincott Company, 1959.

Bishop, Edna B. and Arch, Marjorie S. Fashion Sewing by the Bishop Method. Philadelphia: J. B. Lippincott Company, 1962.

Iowa Home Economics Association. Unit Method of Sewing. Iowa Economics Association, 1959.

Ryan, Mildred Graves. Thrift with a Needle. New York: Charles Scribner's Sons, 1954.

Food and Nutrition--General

Carson, B. and Ramee, M. C. How You Plan and Prepare Meals. New York: McGraw-Hill Book Co., 1962.

Lewis, Dora S., Peckman, Gladys C., and Hovey, Helen S. Family Meals and Hospitality. New York: Macmillan Co., 1961.

McDermott, Irene E., Trilling, Mabel B., and Nicholas, Florence W. Food for Better Living. Philadelphia: J. B. Lippincott, 1960.

Oerke, Bess V. Mealtime. Peoria: Charles A. Bennett Co., Inc., 1960.

Pollard, L. Belle. Experiences with Foods. Boston: Ginn and Company, 1956.

White, Ruth B. You and Your Food. Englewood Cliffs, New Jersey: Prentice-Hall, 1959.

- * USDA Yearbook 1959. Food. Washington, D. C. Superintendent of Documents.

Since so-called "general" books pay varying amounts of attention to specialized areas, the following books will be useful in expanding information and insights in the field of food and nutrition.

Nutrition

- * Bogert, Jean L. Nutrition and Physical Fitness. Philadelphia: W. B. Saunders, 1960.

- * Heinz Handbook of Nutrition. New York: McGraw-Hill Book Company, 1959.

Leverton, Ruth M. Food Becomes You. Ames: Iowa State University Press, 1961.

Martin, Ethel Austin. Nutrition in Action. New York: Holt, Rinehart and Winston, Inc., 1963.

- * Martin, Ethel Austin. Nutrition Education in Action. New York: Holt, Rinehart and Winston, Inc., 1963.

Tannenbaum, B. and Stillman M. Understanding Food, The Chemistry of Nutrition. New York: McGraw-Hill Book Company, 1962.

- * Wilson, Eva, Fisher, Katherine and Fuqua, Mary E. Principles of Nutrition. New York: John Wiley & Sons, Inc., 1960.

Meal Management and Food Buying

- * Batjer, Margaret Z. Meals for the Modern Family. New York: John Wiley and Sons, Inc., 1961.

Goldman, Mary E. Planning and Serving Your Meals. New York: McGraw-Hill Book Company, 1959.

- * Kinder, Faye. Meal Management. New York: The Macmillan Co., 1962.

Sprackling, Helen. Setting Your Table. New York: M. Barrows & Company, Inc., 1960.

- * Wright, Carlton E. Food Buying: Marketing Information for Consumers. New York: The Macmillan Company, 1962.

Cookery

- * American Home Economics Association. Handbook of Food Preparation. Washington, D. C. The Association, 1962.

- * Charley, Helen. Food Study Manual. New York: Ronald Press, 1961.

- * Griswold, Ruth. The Experimental Study of Food. Boston: Houghton-Mifflin Company, 1962.

- * Lowe, Belle. Experimental Cooking. New York: John Wiley & Sons, Inc., 4th ed. 1955.

- * Sweetman, M. D. and MacKellar, I. Food Selection and Preparation. New York: John Wiley & Sons, Inc., 1954. (Watch for revision coming soon)

Everyone probably has a favorite cookbook, and most libraries and home economics departments are likely to have several. One will be recommended, however, since it is considered a very good reference.

Heseltine, M. and Dow, U. M. The New Basic Cookbook. Boston: Houghton Mifflin, 1957.

Health and Home Nursing

Fleming, Mary O. and Benson, Marion C. Home Nursing Handbook. Boston: D. C. Heath and Company, 1961.

Riehl, C. Louise. Family Nursing and Child Care. Peoria: Charles A. Bennett Company, Inc., 1961.

* Rossman, Isadore J. The Family Handbook of Home Nursing and Medical Care. Garden City, New York: Doubleday Publishing Company, 1961.

* Ruslink, Doris. Family Health and Home Nursing. New York: The Macmillan Company, 1962.

* Wilkes, Edward T. Family Guide to Teenage Health. New York: Ronald Press, 1958.

Williams, Jannie. Family Health. Philadelphia: J. B. Lippincott, 1959.

Housing, Home Furnishing and Design

* Agan, Tessie. The House, Its Plan and Use. Philadelphia: J. B. Lippincott, 1956.

* Beitler, E. J. and Lockhart, B. Design for You. New York: John Wiley & Sons, Inc., 1961.

* Beyer, Glenn H. Housing, A Factual Analysis. New York: The Macmillan Company, 1959.

Craig, Hazel T. and Rush, Ola. Homes With Character. Boston: D. C. Heath and Company, 1962.

* Faulkner, Ray and Faulkner, Sarah. Inside Today's Home. New York: Holt, Rinehart and Winston, Inc., 1960.

Lewis, Dora S., Burns, Jean and Segner, Esther. Housing and Home Management. New York: The Macmillan Company, 1961.

Nicholas, F., Trilling, M., Heyne, C. and Lee, M. Art for Young America. Peoria: Charles A. Bennett Company, 1962.

* Obst, Frances M. Art and Design in Home Living. New York: The Macmillan Company, 1962.

* Roger, Kate Ellen, The Modern House, USA. New York: Harper & Row Publishers, 1962.

* Springer, John L. The Home You've Always Wanted. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1962.

- * Watkins, Arthur. Building or Buying the High Quality House at Lowest Cost. Garden City, New York: Doubleday Publishing Company, 1962.

Additional references in this area are listed in the Illinois Teacher for March 1963, Vol. VI, No. 7, pages 299-303. Also in this issue charts are shown to demonstrate how a variety of references can be used. Although the majority of books listed in the above section are marked as teacher references (that is, they were not designed as high school books) most of them can be successfully used with advanced high school students. When the page references for various topics are charted for the different books to be used, one can tell at a glance which book or books will be good sources of information on a given topic. When the teacher also has knowledge of the level of reading difficulty of the books, she is well on her way to individualizing assignments.

Charts such as these could be developed by teachers for many topics or, better, students could contribute the page references as a result of their reading in a variety of books.

Management and Consumer Economics

- * Black, Hillel. Buy Now, Pay Later. New York: William Morrow and Company, 1961.
- * Fitzsimmons, Cleo. Consumer Buying for Better Living. New York: John Wiley & Sons, Inc., 1961.
- Fitzsimmons, Cleo and White, Nell. Management For You. Philadelphia: J. B. Lippincott Company, 1958.
- * Gordon, Leland J. Economics for Consumers. New York: American Book Company, 1961.
- * Gross, Irma and Crandall, Elizabeth. Management for Modern Families. New York: Appleton-Century-Crofts, 1963.
- * Goodyear, Margaret and Klohr, Mildred. Management for Effective Living. New York: John Wiley and Sons, Inc., 1954. (In process of revision)
- * Nickell, Paulena and Dorsey, Jean. Management in Family Living. New York: John Wiley & Sons, Inc., 1959.
- Starr, M. C. Management for Better Living. Boston: D. C. Heath and Company, 1963.
- Wilhelms, Fred T. and Hiemerl, Ramon P. Consumer Economics, Principles and Problems. New York: McGraw-Hill Book Company, 1959.

- * Wood, M. W., Hill, A. D., and Amidon, E. P. Management Problems of Homemakers Employed Outside the Home. Washington, D. C., U. S. Department of Health, Education and Welfare. (For sale by Superintendent of Documents, 65¢)

Household Equipment

- * American Home Economics Association. Handbook of Household Equipment Terminology. Washington, D.C., The Association, 1959.
 - * Ehrenkranz, F. and Inman, L. Equipment in the Home: Appliances, Wiring and Lighting, Kitchen Planning. New York: Harper and Row, Publishers, 1958.
- Peet, Louise J. Young Homemaker's Equipment Guide. Ames: Iowa State University Press, 1958.
- * Peet, Louise J. and Thye, Lenore S. Household Equipment, 5th edition. New York: John Wiley & Sons, Inc., 1961.

Relationships--Personal Development

- Ahern, Nell Giles. Teenage Living. Boston: Houghton-Mifflin Company, 1960.
- Beery, Mary. Young Teens Talk it Over. New York: McGraw-Hill, Whittlesey House, 1957.
- Duvall, Evelyn. Facts of Life and Love for Teenagers. New York: Association Press, 1951.
- Landis, Judson and Landis Mary. Building Your Life. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1955.
- Landis, Judson and Landis, Mary. Teen-Agers Guide to Living. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1957.
- Osborne, E. G. How to Deal with Parents and Other Problems. New York: Grossett and Dunlap, 1962.
- Sorenson, Herbert and Malm, Marquerite. Psychology for Living. New York: McGraw-Hill Book Company, 1957.

Relationships--Family

- * Duvall, Evelyn. Family Development. Philadelphia: J. B. Lippincott Company, 1962.
- Duvall, Evelyn. Family Living. The Macmillan Company, 1961.

Force, Elizabeth. Your Family Today and Tomorrow. New York: Harcourt Brace and Company, 1955.

- * Hoeflin, Ruth M. Essentials of Family Living. New York: John Wiley and Sons, Inc., 1960.

McDermott, I. E. and Nicholas, F. W. Living for Young Moderns. Philadelphia: J. B. Lippincott Company, 1960.

Smart, R. and Smart, M. Living in Families. Boston: Houghton Mifflin Company, 1958.

Relationships--Marriage

Duval, E. and Hill, R. When You Marry. Boston: D. C. Heath, 1962.

- * Becker, H. and Hill, R. Family Marriage and Parenthood. Boston: D. C. Heath and Company, 1955.

- * Bowman, Henry. Marriage for Moderns, 4th edition. New York: McGraw-Hill Book Company, 1960.

Landis, Judson and Landis, Mary. Personal Adjustment, Marriage and Family Living. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1960.

Richardson, F. H. For Teen-Agers Only, The Dr. Discusses Marriage. Atlanta: Tupper and Love, Inc., 1957.

Career Information

Every home economist should be familiar with reading materials to help young people find out about career opportunities in home economics. Home economists also need to interpret these opportunities to parents and guidance personnel in the schools. As well as the excellent career information available from the American Home Economics Association, one or more of the following books should be on the home economics teacher's desk, in the school library, and in the offices of counselors.

Hall, Olive A. Home Economics: Careers and Homemaking. New York: John Wiley and Sons, Inc., 1958.

Humphreyville, Teresa. Futures for Home Economists. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1963.

Phillips, Velma. Home Economics Careers For You. New York: Harper and Row, Publishers, 1962.

Tate, Mildred. Home Economics as a Profession. New York: McGraw-Hill Book Company, 1961.

Teacher References for Teaching

A fresh look at methods of teaching can stimulate a teacher as much as keeping up to date with her subject matter. The books suggested below may help in that way.

Hall, Olive A. and Paolucci, Beatrice. Teaching Home Economics. New York: John Wiley and Sons, Inc., 1961.

Hatcher, Hazel M. and Andrews, Mildred M. The Teaching of Home Economics. Boston: Houghton Mifflin Company, 1963.

Inlow, Gail M. Maturity in High School Teaching. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1963.

Pattison, M., Barbour, H., and Eppright, E. Teaching Nutrition. Ames: Iowa State University Press, 1957.

General References for Department or School Library

Some of these books are of the dictionary or encyclopedia type. Some teachers may find such books useful in the general school library so that anyone may use them for reference, and thus, incidentally, saving some personal requests for information coming to the home economics teacher. Some of these books may be more useful in the laboratory or classroom so information is at one's fingertips.

Allen, Betty and Briggs, Mitchell. Mind Your Manners. Philadelphia: J. B. Lippincott Company, 1957.

American Fabrics Magazine. Encyclopedia of Textiles. Englewood, Cliffs, New Jersey: Prentice-Hall, Inc., 1960.

Good Housekeeping's Guide to Successful Homemaking, revised edition. New York: Harper and Row, Publishers, 1961.

Jacobs, Morris. The Chemistry and Technology of Food and Food Products. 3 volumes. New York: Interscience Publishers, Inc., 1951.

Moore, Alma C. How to Clean Everything. New York: Simon and Schuster, 1961.

Paxman, Shirley and Paxman, Monroe. Family Night Fun. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1960.

Picken, Mary Brooks. The Fashion Dictionary. New York: Funk and Wagnalls Company, 1957.

Shannon, Ellen. American Dictionary of Culinary Terms. New York: A. S. Barnes Company, Inc., 1962.

Roosevelt, Eleanor. Book of Common Sense Etiquette. New York: The Macmillan Company, 1962.

Vanderbilt, Amy. The Complete Book of Etiquette. Garden City, New York: Doubleday Book Company, 1956.

Ward, Artemis. The Encyclopedia of Food. New York: Peter Smith Publishers, 1942 (may be later edition).

The Wise Encyclopedia of Food. New York: William H. Wise and Company, Inc., 1953

Published Materials from Business, Trade Associations, Educational Organizations and Agencies

Probably every home economics teacher is familiar with the business sponsored teaching aids available through the coupon services of various magazines. Teachers have been encouraged to select only the best, to practice discretion in their use, and to use them only as they can serve a distinct purpose in the learning situation. Merely passing them out because they are easy to get is not using them. Students can become surfeited with too much of this and cease to pay attention to "hand-outs."

The teacher's wise use of these teaching aids is so important that we are repeating suggestions from the Illinois Teacher, Vol. 11, No. 8, pp. 44-45, "Let's Use Business Sponsored Teaching Aids with Discretion."

In a leaflet, Business-Sponsored Home Economics Teaching Aids published by the U. S. Department of Health, Education and Welfare, which was jointly prepared by home economists in business and education in 1955, suggestions are offered that may serve as guides to your careful selection and wise use of coupon aids.

Teaching Materials with educational value have these characteristics:

- Meet needs common to the group for which the material is intended.
- Add interest to the learning process.
- Supplement information available in reference books or present it in a more effective or up-to-date way.
- Help develop judgment and discrimination.
- Help develop initiative, self-direction, and resourcefulness.
- Are positive in approach.
- Emphasize standards consistent with individual and family well-being.
- Present information accurately and honestly without bias, deception, or exaggeration.
- Cite authority or sources of information.

Present content that is:

- up to date and timely
- about products rather than specific brands
- well organized
- clear, concise, and easy to read.

Present material in a form that is:

- well designed and illustrated, with good balance between pictures and text
- easy to handle, display, and store.

A part of over-all planning

In addition to evaluating individual aids, you will be planning for their effective use. The following steps outlined by an Illinois teacher may be helpful:

Make a chart of the units you expect to teach next year with the approximate number of weeks to be devoted to each.

Note units that now appear to have considerable reference materials available in your field and those that seem to have the fewest aids.

Balance the number of teaching aids to be ordered against:

- the supply already available
- the relative importance of the subject in your teaching program.

Remember that more materials than a teacher and a class are able to evaluate and use with discrimination hamper rather than aid teaching.

Order sample copies to evaluate before ordering a supply. Indiscriminate ordering is wasteful and costly to producers and to consumers alike.

Recognize that only you as a professional home economist can apply the criteria mentioned above. But before ordering a supply for distribution to pupils it may be well to take all three of these steps:

- read the sample copy critically in light of its appropriateness to your pupils and their homes as you know them

- try out the appeal and readability level with the pupils who might later appreciate sharing the material with the families

request from your school administrator a statement of policy about distribution of commercially prepared materials under school auspices.

Realize that from the company's standpoint, a quantity order is interpreted as an endorsement of the teaching aid.

If a teaching aid is not usable, letting the producer know why will help to provide better materials in the future. Care should be taken to express only sound objections.

Suggestions for reading materials, other than that coming through coupon services are given below. No effort has been made to list all possible sources, but leads have been provided. Magazines for specialized interests are also suggested.

General sources of information

American Home Economics Association, 1600 Twentieth Street, N.W., Washington 9, D.C. Official organ Journal of Home Economics published 10 times a year. Publications list of bulletins and pamphlets revised annually in June.

Department of Home Economics, National Education Association, 1201 Sixteenth Street, N.W., Washington, D.C. Three professional bulletins published each year.

United States Department of Agriculture, Washington, D.C. Write to the Office of Information for list of available publications.

Child Development and Family Relations

Magazine: Marriage and Family Living, published four times a year by the National Council on Family Relations, 1219 University Avenue, S.E., Minneapolis 14, Minnesota.

Bulletins: Children's Bureau, U. S. Department of Health, Education and Welfare, Washington, D. C.

Public Affairs Committee, 22 East 38th Street, New York 16, New York.

Science Research Associates, 57 West Grand Avenue, Chicago 10, Illinois.

Clothing and Textiles

Magazine: American Fabrics, Doric Publishing Company, Inc., 24 East 38th Street, New York 16, New York. (Published quarterly)

Bulletins: Home Laundry Conference Bulletins published by American Home Laundry Manufacturers' Association, 20 North Wacker Drive, Chicago, Illinois.

Consumer Buying and Management

Magazines: Changing Times, The Kiplinger Magazine, Editors Park, Maryland.

Consumers Reports, Consumers' Union, 256 Washington Street, Mount Vernon, New York.

Consumers' Research Bulletin, Consumers' Research, Inc., Washington, New Jersey.

Bulletins: Council on Consumer Information, Colorado State College, Greeley, Colorado. Membership (\$3 annually) includes quarterly Newsletter, annual conference proceedings, and informative pamphlets published during the year.

Household Finance Corporation, Prudential Plaza, Chicago 1, Illinois, Money Management Library.

Institute of Life Insurance, 488 Madison Avenue, New York 22, New York. Ask for current publications lists for teachers and to be put on mailing list for Family Finance Topics.

Food and Nutrition

Bulletins: American Institute of Baking, 400 East Ontario Street, Chicago 11, Illinois. Ask to be put on mailing list for Food Sense, Not Nonsense.

National Dairy Council, 111 North Canal Street, Chicago 6, Illinois. Ask to be put on mailing list for Nutrition News, published four times annually.

National Live Stock and Meat Board, 407 South Dearborn Street, Chicago 5, Illinois. Ask to be put on mailing list for Food and Nutrition News, published monthly except in July, August and September.

Institute of Home Economics, Agricultural Research Service, U. S. Department of Agriculture, Washington, D. C. Ask to be put on mailing list for Nutrition Committee News.

Housing and Equipment

Magazines: Be alert to housing and equipment articles in the "home" magazines addressed to the homemaker.

Bulletins: Circulars (15¢ each) on various topics of planning and building from Small Homes Council, Mumford House, University of Illinois, Urbana, Illinois.

Periodic "newsletters" from major manufacturers of household appliances. Write to company of your choice to inquire about being on mailing list.

In response to many requests for detailed information about planning home economics laboratories, we are glad to announce that Kitchen Units for the Classroom, University of Illinois, Agriculture Experiment Station Bulletin 693 is now available. Order from OFFICE OF INFORMATION, 112 MUMFORD HALL, UNIVERSITY OF ILLINOIS, URBANA, ILLINOIS. Do not order from Illinois Teacher.

Audio-Visual Tools and Techniques

Audio-visual materials surely have a place in the classroom as well as reading materials. These resources can add zest and variety to the daily work of students and teachers. They may make a point more emphatic than verbal communication alone. They often compel attention more so than the printed word, and they can help develop powers of observation and listening to promote critical thinking.

Audio-visual resources encompass such a variety of tools and materials that only some of the more recent technological aids will be discussed here. Many others were described in Illinois Teacher, Vol. 11, No. 8, "Visual Aids: Our Silent Teachers."

A "position paper" about the role of educational media in the public schools states two possible functions for technological media:

1. To supplement the teacher through enhancing her effectiveness in the classroom, and
2. To enhance the over-all productivity of the teacher through instructional media which do not depend upon the teacher for presentation of material.¹

In the first case the teacher, using educational media as tools for both teaching and learning, would expect their function to be served by enhancing clarity in communication, providing diversity in method and forcefulness in appeal. In the second case, the teacher would also determine the objectives, select method and content and evaluate final outcomes. The actual presentation of information, however, may be turned over to some of the new media. This could be by providing programmed learning materials (in books or machines),

using TV presentations, or motion pictures. An example of the last is the Havey White physics films, where an entire course is put on film. We do not mean isolated "movies" as have been traditionally used in classroom teaching.

Whatever is chosen to serve either function, and however it is used, one should be concerned about the degree to which the medium extends the work of the teacher. Supplementing her efforts, not supplanting them, is the aim.

Some of the new media are often referred to as mass media, and that can be an appropriate designation. Many students can be reached at one time with the technological help of TV or other recorded and projected material. Let us not limit our thinking to that being their only use, however. Intensive use of some of these same tools in an individual classroom can enhance teaching and learning for a few individuals. The matter of money for these tools naturally comes into the picture, but as improvements are made and demand for them goes up, and as their effectiveness is demonstrated, more schools will likely be using more of them. In many classrooms today, a screen for projected materials is as common as the blackboard of yesteryear. Whereas a few years ago a school might have had a single overhead projector, several schools now are aiming to add them as regular features in every classroom.

Not a new tool, but certainly becoming more prevalent, is the tape recorder. Teachers are using recorders in a variety of ways. Some of these are:

- * Recording panel discussions or individual presentations by resource visitors so that material is available for later use.
- * Recording interviews with people who cannot come to school to share their ideas.
- * Taping try-outs of skits for classes, or for programs, as a basis for criticism and improvement. Time can be saved if teachers and students can't get together in that teacher may later listen to the tape and make her suggestions.
- * Taping try-out situations in relation to hospitality ventures. Hearing oneself make introductions or carry on practice conversations can encourage self-criticism better than just talking about what to do.
- * Recording commercials from radio or TV so that everyone in the class will be sure to hear the same material when it is played for class analysis.
- * Recording conversation of children at play school (or elsewhere) can give very real material for future discussions. Often when such material is merely repeated as "Jimmy said..." it may not have all the accuracy or overtones that are possible from a direct recording.

Perhaps some day recording by video-tape may be as easy and economical as recording by audio-tape. A possible use then might be having a role-playing session so recorded. If an aim of role-playing has been to help

students see how people react to different situations and personalities, being able to literally see themselves as others see them through video-tape could be very meaningful. Also, students would not have to depend upon remembered impressions, but could verify what did happen by watching the tape, during follow-up discussions.

Some one in audio-visual education has called 1962 the year of the overhead projector.² Enthusiasm for it runs high because of its versatility. It has been dubbed a magic lantern, an electric blackboard or a living blackboard. Many consider it more than just another projection device, but a real teaching instrument. Considering the ways other projectors have to be operated and the materials that are appropriate to their use, the overhead projector seems to have these advantages:

- * The instructor operates the equipment, and makes the presentation from a commanding position in the front of the room, facing the class.
- * The instructor selects, **and** often designs, his own materials, arranges them in the sequence he desires, and narrates his own "script."
- * Normal classroom lighting can be used, thus facilitating note-taking.
- * Identification of important items is easily done with a pencil as a pointer, or material can be underlined with a grease pencil during a presentation.
- * Complex ideas can be shown in various parts or stages by use of overlays (different parts of the scheme are prepared on different transparencies).
- * One idea or item can be presented at a time from any given transparency by covering **up** with a card or paper all but the one part on which you wish the class to focus its attention.
- * It is possible to write, or mark, right on the transparency if you wish to make additions to a diagram or whatever you are using. Colors can be incorporated with different colored felt-pens or grease pencils. Or a roll of acetate film can be used for successive notes or diagrams, just as one would use a blackboard. Visibility, however, is greatly enhanced by the projection.

Let us look at some actual ways this versatile tool is, and can be used. The only thing which limits its usefulness is really the most important tool of all, the imagination of the teacher. Quick copying processes have enabled teachers easily to prepare material for projection as they are planning their lessons. An even more immediate use is to make copies of student work done right in the classroom and project it for analysis and review. Teachers report that students work harder when they feel their material might be the next to be chosen. And how much easier, and more effective, it would be to have your entire group observing what it is you are talking about rather than just listening, or waiting for a laborious blackboard copying.

What might they look at in situations suggested by the above? In home economics classes students frequently plan meals and then evaluate them. With this technique the whole class could easily share in the evaluation, and gain many new ideas at the same time. Groups may be developing time plans for a certain project, and decisions may have to be made about which is most feasible. Plans for responsibilities for some big project may be clarified by having the committees "report" via the overhead projector. The total group could analyze them to see how the various jobs fit together. When a teacher is trying to have students formulate generalizations in summarizing lessons, and she is also wanting to give them group experience in testing the soundness of a generalization, having the statements projected so everyone could easily see would aid this process. A substitute blackboard? Yes, but quicker, and usually more effective. In terms of time saved and what can be accomplished as a result, this technique can be considered economical.

Practically anything can be copied for overhead projections. Machines for copying processes are quite versatile. This enables a teacher to make use of a great variety of materials. But even more versatility is possible with teacher-developed materials. Because the transparencies can be saved and used over and over again, teachers tend to make the illustrative material the best possible. Time spent in development is more than compensated for by re-use.

Analysis of charts is greatly facilitated by having the charts copied on to a transparency and then projecting them so all have a common view. Even if each student had a duplicated copy of the chart, or one in his textbook, it seems easier to have them follow explanations when their attention is focused on the projected one. Being able to use a pointer, rather than having to say "row 3, column 4" helps here. Statistical information can be made to come alive more easily with the techniques possible with this versatile tool, than with many other methods.

Quick exercises in evaluation and drill for vocabulary or learning certain symbols are other ways teachers are using overhead projection. If one had, for example, lists of abbreviations for measurements and their meanings, or equivalent measurements, one-half of the transparency could present the stimulus list while a paper covered the answers. As soon as the group finished, the other half is uncovered, and students immediately correct their papers. Time saving? Yes! Plus the psychological advantage of immediate reinforcement.

Silhouettes can also be projected; not everything has to be transparencies. The shapes of certain pieces of small equipment might be used for identification. In clothing selection classes the silhouettes of figure types could be used along with accessories in and out of scale. Pieces of paper in abstract designs can be moved around on the stage of the projector to illustrate many design principles. Furniture arrangement, with the familiar furniture cut-outs, is surely a natural for this technique.

Of course, in experiences like the above, students should be as active in working at the projector as the teacher. Operation is easy and uncomplicated.

Try-out experiences surely belong to the student. Another student use may be that they may wish to use it when presenting data in connection with special reports.

Some Do's and Don'ts in using an overhead projector

Because of its ease of operation and its effectiveness, teachers might settle for less than maximum benefits, or they may be cluttering a presentation unnecessarily. Since one of its most important functions is to control attention the following suggestions might be helpful to the novice using this tool.

- * Position the projector and screen diagonally across the front of the room, keeping light path perpendicular to the screen.
- * Don't turn the light on **and** leave it on an empty stage. You as the teacher should be the focus when nothing is being projected.
- * For best effects locate transparency on stage before turning on light.
- * Be deliberate about pointing, then get off stage. If your hands shake, touch the pointer to the transparency to steady it. Don't make rapid, distracting gestures on the stage.
- * When using overlays be sure everyone understands each stage before placing the next stage in view.
- * Simplicity is important.
- * Color can add dramatic impact. Don't use it just to be "colorful," but with purpose.³

REFERENCES CITED

1. Barry Morris, ed. "The Function of Media in the Public School." Audiovisual Instruction, Vol. 8, No. 1, January 1963, p. 11.
2. "Tool of the Times," Audiovisual Instruction, Vol. 8, No. 4. entire issue.
3. Emil W. Grieshaber. "Overhead Projector, Here's How to Make the Most of It." Audiovisual Instruction, Vol. 8, No. 4, April 1963, pp. 236-237.

1963-64 SUBSCRIPTION INFORMATION

Volume VII of the Illinois Teacher of Home Economics, to be published in 1963-64, will include six issues. The issues will be published on the fifteenth of the following months: September, October, November, February, March, and April. The price will continue to be \$3.00 a year.

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